(24,980)

SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, 1915.

No. 697.

THE SUNDAY LAKE IRON COMPANY, PLAINTIFF IN ERROR,

vs.

THE TOWNSHIP OF WAKEFIELD.

IN ERROR TO THE SUPREME COURT OF THE STATE OF MICHIGAN.

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1 Writ of Error Was Issued from Supreme Court of Michigan

August 22, 1913.

Return to This Writ Was Filed September 10, 1913.

STATE OF MICHIGAN:

The Supreme Court.

Declaration.

STATE OF MICHIGAN,
County of Gogebic, ss:

The Circuit Court for the County of Gogebic.

The Sunday Lake Iron Company, of said County, plaintiff herein, by William P. Belden, its attorney, complains of the Township of Wakefield, defendant in this suit, the said Township of Wakefield having been heretofore duly summoned to answer the said plaintiff, on a plea of trespass on the case upon promises:

For that, Whereas, the said plaintiff is now and has been for, to-wit, five years and upwards last past, a corporation duly organized and existing under the laws of the State of Michigan and engaged in operating the property commonly known as the Sunday Lake and Iron Chief Mines in said Township of Wakefield as the lessee thereof, which said Sunday Lake Mine property is more particularly described as the West Half of the West Half (W. ½ of W. ½) of Section Ten (10), in Township Forty-Seven (47) North, of Range Forty-Five (45) west, in said County and State, consisting of one hundred and sixty (160) acres, more or less, and the said Iron Chief Mine property is more particularly described as the East Half of the Southwest Quarter (E. ½ of S. W. ¼) in said Section Ten (10), Township and Range last aforesaid, consisting of eighty (80) acres, more or less, and that under and by virtue of the terms of

2 the mining lease under which said plaintiff has operated and is operating said mining property above described, it became and was its duty to pay all taxes which might lawfully be assessed against said premises during the term of said lease, including the taxes for the year 1911.

That the said defendant, Township of Wakefield, is now and has been for, to-wit, five (5) years and upwards last past, a duly organized township under the laws of the State of Michigan, constituting a part of said County of Gogebic.

That on, to-wit, the 10th of April, 1911, the said defendant, by and through its officers, assessed the said mining property above described as a basis of collecting therefrom its proportion of the taxes for the year 1911, and placed on said Sunday Lake Mine property a valuation of Sixty Thousand Dollars ($60,000.00) and on

said Iron Chief Mine property a valuation of Five Thousand Dollars ($5,000.00), which valuations were thereafter, at the meeting of the Board of Review of said Township held in, to-wit, the month of June, 1911, as provided by the statute in such case made and provided, approved and confirmed, and the said plaintiff avers that said assessment so made, if not amounting to the full cash value of said mining properties respectively, represented at least as large a proportion thereof as the general average of assessments in said Township of Wakefield of all classes of property therein made at the same time and on the same assessment roll, represented the true cash value of such property.

And the said plaintiff further avers that in assessing at the same time the other real and personal property in said township, aside from the iron mining properties located therein, the said defendant, by and through its officers, did not assess such other property at its full cash value, but that such other property, including timbered lands, farm lands, village property and real property generally, outside of the iron mining properties as aforesaid, was wilfully and intentionally undervalued and underassessed by it at not
3 exceeding one-third of its true cash value, and that large amounts of personal property, the existence of which was well known to the assessing officer of said defendant, was wilfully and intentionally omitted from the assessment roll so made for the year 1911, and no valuation whatever was placed thereon; and that such assessments so made by the assessing officer of said Township were thereafter adopted and confirmed by the Board of Review of said Township at its meeting held in the month of June, 1911, as hereinbefore set forth.

And the said plaintiff further avers that thereafter on, to-wit, the 2nd of October, 1911, the Board of State Tax Commissioners, acting as a Board of Review, under the statute in such case made and provided, called and held a meeting at the court house in the City of Bessemer, in said county and state, in pursuance of notice thereof, duly published and given by said Board, for the purpose of reviewing, among others, the assessment roll of said Township of Wakefield for the year 1911, and of taking at such meeting such action as might be necessary to correct the irregular or unlawful assessments that might be found to exist therein; that the said plaintiff, by its officers and representatives, attended said meeting of the Board of State Tax Commissioners at the time and place aforesaid, and, on learning of the purpose of said Board to raise the assessments of said mining property above described, and other mining properties, without, however, in like manner increasing or correcting the assessments of other property, then and there filed a written complaint stating and representing to said Board that real and personal property other than iron mining property, located in said Township of Wakefield, was and is generally under-valued and under-assessed by the assessing officers of said Township, and that large amounts of such property subject to taxation under the laws of Michigan had been entirely omitted from the tax roll in said Town-

ship, and said plaintiff offered in such written complaint to
4 present proofs of such allegations at said meeting, or at such time and place as said Board should appoint, showing that such real and personal property in said Township of Wakefield, other than iron mining properties, was in fact assessed at only one-third of its true cash value, and the said plaintiff then and there complained that such assessments were erroneous, unjust and inequitable, and in and by its written complaint, filed as aforesaid, requested said Board to review and correct such assessments and omissions in accordance with the Tax Laws of the State of Michigan.

And that the said plaintiff then and there at said meeting also represented to said Board of State Tax Commissioners that its said mining property above described was in fact assessed on said roll at as large a proportion of its true cash value as the general average of assessments in said Township of Wakefield of all classes of property therein represented of the true cash value of such property, and protested against increasing the valuation so placed upon its said mining property by the said Township of Wakefield, through its assessing officer and Board of Review, without at the same time in like manner increasing the assessments of such other property in said Township, and adding to said assessment roll property omitted therefrom as aforesaid.

That under the statute in such case made and provided, it became and was the duty of said Board of State Tax Commissioners, acting as a Board of Review, as aforesaid, to correct the assessments so made by said defendant, the Township of Wakefield, in such manner as would in their judgment make the valuation of said plaintiff's mining property above described and the assessments of other property in said Township of Wakefield on such roll for the year 1911, relatively just and equal.

But the said Board of State Tax Commissioners, well knowing its duty to make such assessments relatively just and equal, as aforesaid, and with full knowledge of the facts, as hereinbefore set forth,
would not receive at said meeting the proofs so offered by
5 said plaintiff of such under-assessments of property other than the iron mining properties, and of the omissions from said assessment roll as aforesaid, and did not and would not appoint any other time and place for hearing said proofs, and would not and did not correct or change the assessments of property in said Township of Wakefield (other than the iron mining properties) of which said plaintiff had made written complaint as hereinbefore stated, but on the contrary, permitted such erroneous, unjust and unequal assessments to stand and remain unchanged on said assessment roll.

And said Board of State Tax Commissioners, with full knowledge of the facts hereinbefore set forth, wilfully and intentionally raised and increased the assessments on said Sunday Lake Mine property from the sum of Sixty Thousand Dollars ($60,000.00) as assessed to the sum of Nine Hundred and Eighty-Nine Thousand Dollars ($989,000.00), and the assessment of said Iron Chief Mine property from the sum of Five Thousand Dollars ($5,000.00) as assessed to

the sum of Eighty-Three Thousand Dollars ($83,000.00), which amounts were and are vastly in excess of the true cash value of said mining property above described, as was well known to said Board; that in determining the value of said mining property said Board used and relied upon certain calculations that were based upon incorrect and unjustifiable assumptions in violation of all proper principles or methods of estimating or determining the value of iron mining properties; and that said assessments so made and fixed by the Board of State Tax Commissioners are and were well known by said Board to be excessive, and were nevertheless placed by it upon said mining property above described, with the intention and for the purpose of requiring said plaintiff to pay more than its just proportion of the taxes of said Township of Wakefield for the
6 year 1911, and said assessments were and are illegal, fraudulent and void.

After such action had been taken by the Board of State Tax Commissioners, as aforesaid, and the assessments of such mining property had been fixed, as hereinbefore stated, the tax roll for the collection of all the taxes for the year 1911, including the State, County, Township, School, Highway and all other taxes authorized and raised by said defendant for the year 1911, was completed and placed in the hands of the Treasurer of said Township of Wakefield, from which tax roll it appeared that the amount of taxes which the said plaintiff was required to pay for all purposes as aforesaid for the year 1911 on said Sunday Lake Mine property was the sum of, to-wit, Twenty-Nine Thousand One Hundred Seventy-Five and 54/100 Dollars ($29,175.54), and on said Iron Chief Mine property the sum of, to-wit, Two Thousand Four Hundred and Nineteen Dollars ($2,419.-00), and that including the one per cent collection fee incidental thereto, under the statute in such case made and provided, the total amount due theron was Thirty-One Thousand Nine Hundred Ten and 45/100 Dollars ($31,910.45.)

After such illegal taxes had become due and payable and had become an apparent lien upon said mining property above described, said plaintiff on, to-wit, the 9th of January, 1912, paid said taxes and collection fees to the said defendant, but under protest, pursuant to the statute in such case made and provided, and objecting to the validity of said taxes and of the assessments upon which the same were based, and denying the right of said defendant to collect the same, and at the time of paying such taxes said plaintiff then and there filed with the Treasurer of said defendant a written protest setting forth at length its objections to said taxes and assessments as above stated, a true copy of which protest is hereto attached, marked Exhibit "A," and made a part of this declaration. The total amount so paid for taxes and collection fees to said defendant was the
7 sum of Thirty-One Thousand Nine Hundred Ten and 45/100 Dollars (31,910.45).

The plaintiff avers that the said defendant was not entitled to collect or receive from it the above amount, or any part thereof, because said assessment was and is excessive, illegal, fraudulent and void, as hereinbefore set forth, and was so made by the Board of State Tax

Commissioners wilfully and intentionally, as hereinbefore set forth, by reason of which the said plaintiff has been damaged to the extent and amount which it was required to pay said Treasurer of the Township of Wakefield, as aforesaid, together with interest thereon at the legal rate from the date of said payment hitherto, for which amount said defendant is legally indebted to and owes the said defendant, yet the said defendant although often requested to repay the same hath hitherto refused and does still neglect and refuse so to do to the damage of the said plaintiff in the sum of Forty Thousand Dollars ($40,000.00), and therefore it brings suit in the manner and within the time specified in the statute in such case made and provided.

Second Count.

And also for that, whereas, the said plaintiff is and has been a corporation existing under the laws of Michigan and operating said mining property hereinbefore described as lessee, and was obligated to pay the taxes thereon in all respects, under the circumstances and as alleged and set forth in the first count of this declaration.

And that the said defendant Township of Wakefield is now and has been a duly organized township under the laws of the State of Michigan in all respects as set forth in said first count hereof.

And that the said defendant heretofore on, to-wit, the 9th day of January, 1912, at the Township of Wakefield, County and State aforesaid, was indebted to the plaintiff in the sum of Forty Thousand Dollars ($40,000.00) for so much money then and there paid by the plaintiff for the use of the said defendant at its request, and in a like sum for money then and there received by the defendant to and for the use of said plaintiff.

8 And in a like sum for money then and there found to be due from the defendant to the plaintiff on an account stated between them.

And being so indebted, the said defendant, in consideration thereof, afterwards, to-wit, on the same day and year aforesaid, undertook and then and there faithfully promised said plaintiff, well and truly to pay unto the said plaintiff the said several sums of money respectively, on request; yet the said defendant has disregarded its said promises, and has not, although often requested so to do, paid any of the said sums of money, or any part thereof, to the plaintiff's damage of Forty Thousand Dollars ($40,000.00), and therefore it brings suit within the time and in the manner specified by the statute in such case made and provided.

WILLIAM P. BELDEN,
Attorney for Plaintiff.

Bill of Particulars.

To the Above Named Defendant:

Take notice that the following is a bill of particulars of the demand of the said plaintiff under the common counts in the foregoing declaration, namely·

To cash paid to the Treasurer of said Township of Wakefield covering the taxes and collection fees incidental thereto for the year 1911, under a pretended assessment roll made, adopted and issued, as set forth in the preceding declaration, which said assessment and taxes were and are illegal and void, and said taxes were paid under protest, as hereinbefore in said declaration stated, to-wit, Thirty-One Thousand Nine Hundred Ten and 45/100 Dollars ($31,910.45), together with interest thereon.

WILLIAM P. BELDEN,
Attorney for Plaintiff.

9 EXHIBIT "A."

To Matt Lahti, Treasurer of Township of Wakefield, County of Gogebic, and State of Michigan.

SIR: The undersigned, the Sunday Lake Iron Company, a corporation organized under the laws of the State of Michigan, and doing business in Michigan, hereby remits and pays to you, under protest, however, the sum of $31,910.45, being the amount of the tax as levied and assessed for the year 1911 against the following described lands and property, to-wit:

West one-half (½) of West one-half (½), Section ten (10), Township forty-seven (47) North of Range forty-five (45) West, Gogebic County, Michigan, consisting of One Hundred and Sixty (160) acres, and East one-half (½) of Southwest one-quarter (¼), Section ten (10), Township forty-seven (47) North of Range forty-five (45) West, Gogebic County, Michigan, consisting of eighty (80) acres. Such property being commonly known as the Sunday Lake and Iron Chief Mines.

The undersigned denies the validity of said taxes and of the assessment upon which the same are based, and denies your right to collect the same, and makes such payment under protest for the following reasons, to-wit:

1. That the assessment made upon the above described property for the year 1911 was and is largely in excess of the true cash value of said property, and that such assessment was fixed and made by the Board of State Tax Commissioners of Michigan, in, to-wit, October, 1911, with full knowledge that such assessment was excessive and with the intention of assessing said property at more than its true cash value, notwithstanding the protests and objections thereto made before said Board in behalf of the undersigned, and the representations then and there made in its behalf as to the real facts in respect to the value of such property. That the calculations of the value of said property used by said Board of State Tax Commis-
10 sioners in making said assessment, and upon which the same is to a large extent based, were and are grossly erroneous, that the same were based upon incorrect and unjustifiable assumptions in violation of all proper principles or methods of estimating or determining the value of iron mining properties, and that the conclusions reached were largely in excess of the real or actual value of said prop-

erty; that said errors and the erroneous assumptions upon which such calculations were based, were brought to the attention of said Board of State Tax Commissioners by the undersigned at a session of said Board held at Bessemer, Michigan, on the 2nd day of October, 1911, before said assessment was made, but that nevertheless said Board of State Tax Commissioners with full knowledge of said inaccuracies and of the unreliable character of said calculations used and largely adopted the same in making and fixing the assessments upon which said taxes were based by reason of which said assessment was and is illegal, unjust and inequitable.

2. That real and personal property (other than iron mining properties) located in the Township of Wakefield, in said County and State, was generally and intentionally under-valued and under-assessed by the assessing officer of said Township of Wakefield in preparing the assessment roll for the year 1911; that large amounts of personal property subject to taxation under the laws of Michigan were intentionally omitted from said tax roll and that the assessments of such real and personal property in said Township of Wakefield (other than iron mining properties) as confirmed and approved by the Board of Review thereof, were made and fixed at not exceeding one-third of the true cash value of such property respectively, and that this statement is generally true of each and all of the assessments of real and personal property (other than iron mining properties) so made on said tax roll for the year 1911.

That at the meeting of the Board of State Tax Commissioners held at Bessemer, in said County, on the 2nd day of October, 1911, the undersigned filed written complaints before said Board, alleging and setting forth the general and international under-assess-
11 ment of such other real and personal property for the year 1911 and the omissions above referred to, and requested that such erroneous, unjust and inequitable assessments and such omissions from the tax roll be reviewed and corrected in accordance with the tax laws of the State of Michigan and there offered to present proofs of the claims and allegations so made in such written complaint, but that said Board of State Tax Commissioners disregarded such protests, claims and statements so made in behalf of the undersigned, and would not give the undersigned an opportunity to present the proofs and evidence so offered and would not and did not review or correct such inequitable and illegal assessments and the omissions so complained of, but, though well knowing the truth of the allegations so made and the facts in respect to such assessments, permitted them to stand and remain on the tax roll of 1911 as made, but nevertheless raised the assessment made by such local assessing officer on the property of the undersigned above described and referred to, to an amount grossly in excess of the true cash value of its said property; by reason of which action of the Board of State Tax Commissioners an unequal proportion of the burden of taxation for said Township of Wakefield for the year 1911 has been placed upon the property of the undersigned, contrary to the statute in such case made and provided.

And that the gross inequality between the excessive assessments

so made upon the property of the undersigned and the intentional under-assessment and the omission of property other than the iron mining properties, invalidates the assessment so made against the property of the undersigned, and it pays the taxes thereon under protest as aforesaid.

We therefore direct and request that you minute the fact of such protest on the tax roll in entering the payment of the taxes on the property above described, and that in addition thereto you specify the same in the receipt given us therefor.

Dated this 9th day of January, 1912.

SUNDAY LAKE IRON COMPANY,
By L. M. HARDENBURGH,
General Sup't.

12 *Stipulation Amending Declaration.*

STATE OF MICHIGAN:

The Circuit Court for the County of Gogebic.

SUNDAY LAKE IRON COMPANY, Plaintiff,
vs.
TOWNSHIP OF WAKEFIELD, Defendant.

It is Hereby Stipulated and Agreed, By and between the parties to the above entitled cause by their respective attorneys, that the declaration heretofore filed by the said plaintiff therein may be and is hereby amended in the first count thereof by adding on page five of said declaration a new clause so that the statement therein beginning on line eight from the bottom of said page five and now reading as follows:

"That in determining the value of said mining property said board used and relied upon certain calculations that were based upon incorrect and unjustifiable assumptions in violation of all proper principles or methods of estimating or determining the value of iron mining properties,"

will have added thereto the following statement as a part thereof:

"And in violation of the rights of this plaintiff under the third division of Article 1, Section 8 of the Constitution of the United States and also of the fourteenth amendment of the Constitution of the United States, and that said assessment was so made as to deny to this plaintiff the equal protection of the laws of the State of Michigan and of the Constitution of the United States as aforesaid."

Dated this 11th day of January, 1913.

WILLIAM P. BELDEN,
Plaintiff's Attorney.
JAMES A. O'NEILL,
Defendant's Attorney.

13 *Defendant's Plea.*

STATE OF MICHIGAN:

The Circuit Court for the County of Gogebic.

SUNDAY LAKE IRON COMPANY, a Corporation, Plaintiff,
vs.
TOWNSHIP OF WAKEFIELD, Defendant.

Now comes the defendant by James A. O'Neill, its attorney, and demands a trial of the matters set forth in plaintiff's declaration.

JAMES A. O'NEILL,
Attorney for Defendant.

Business Address: Ironwood, Mich.

Bill of Exceptions.

STATE OF MICHIGAN:

In the Circuit Court for the County of Gogebic.

SUNDAY LAKE IRON COMPANY, Plaintiff,
vs.
TOWNSHIP OF WAKEFIELD, Defendant.

At a session of said court held at the court house in the City of Bessemer, in said County and State, on the 21st day of April, 1913.

Present: Honorable Samuel S. Cooper, Circuit Judge.

This cause came on for trial before the Honorable Samuel
14 S. Cooper, Circuit Judge, and a jury, upon the pleading heretofore filed herein.

Present: William P. Belden for Plaintiff; Horace Andrews, of Counsel; James A. O'Neill, for Defendant; George O. Driscoll, of Counsel.

A jury having been impaneled and sworn, Mr. Belden on behalf of plaintiff made the following opening statement:

Mr. Belden: May it please the court; gentlemen of the jury: It will perhaps help you to understand the testimony if I tell you briefly in advance what this case is going to be. I have already told you that this is a case brought by the Sunday Lake Iron Company to recover back the taxes which it paid under protest in 1911. I will now explain to you briefly why we claim the right to recover back those taxes.

This suit is not brought, of course, because the company claims that it is not obliged to pay taxes the same as other people. It is brought because it objects to being assessed more than other people

and to being compelled to pay taxes in a manner different and in many respects contrary to the methods of taxation which are applied to other tax payers generally throughout the community.

In the spring of 1911 the Sunday Lake Iron Company's property, consisting of the Sunday Lake mine and what is called the Iron Chief property, was assessed at $65,000, and if that was not its full cash value it was at least as large a proportion of the true cash value of the property as property generally in that locality was commonly assessed by the local assessing authorities. In the summer of 1911 the Board of State Tax Commissioners caused a so-called appraisal to be made of the iron mines of the Upper Peninsula and also the copper mines and other mines throughout the state. The appraisal was made by J. R. Finlay whose testimony will be submitted to you here. This appraisal will be presented and will be discussed somewhat in this case. On October 2, 1911, the Board of State Tax Commissioners came to Bessemer and held a hearing in this room
15 where they proceeded to review the assessments of the Township of Wakefield, as recited in the order issued to the supervisor. About that time this so-called appraisal of the mining properties had been issued in pamphlet form and this pamphlet had just come out and it was apparent from this that Mr. Finlay had placed a very excessive valuation on the property of the Sunday Lake Mining Company; a valuation in excess of any actual value which was there or which had ever been known in connection with the mine. When the Board of State Tax Commissioners was here at Bessemer the company appeared by its representatives and called the attention of the board to the excessive valuation placed upon the property by Mr. Finlay. It also called the attention of the board to the fact that property generally out in the township had only been assessed—I am speaking of the general run of property outside of the iron mines, that class of property not being included in this appraisal—such property had been assessed at only about one-third of its value and that that had been the general custom out there for many years and in view of that custom it would be very unfair and unjust to the Sunday Lake Mining Company if its property was raised up to a big valuation in excess of its true value and at the same time leave all other property out there assessed at about a third of its value, and the Sunday Lake Iron Company filed a written complaint with the board telling them these things. They were explained to the board verbally and they were put in a written complaint. We asked them to review this other property. We asked them to fix a time and place and let us come and submit proof to them in regard to these other assessments, but the Board of State Tax Commissioners, as they expressed it, said they didn't have time to do that, although, gentlemen, they had as much time for one class of property as they did for the other, and they left this general range of assessments just where they were and raised the mining company from $65,000 to $1,072,000.

16 We propose to show you by competent testimony that that valuation placed on the mine was vastly in excess of the true value of that property and that that valuation was reached by a

method and under a calculation made in violation of the tax laws of Michigan and one which is not applied to the property of other people at all; in other words, that a rule of taxation has been imposed upon this mining company different and greater than that placed upon other citizens and at variance with the manner in which you gentlemen and other property owners have your property assessed, and that by reason of this enormous increase, and by reason of leaving these other assessments down to about a third of their value, there is placed upon this plaintiff an unequal proportion of the burden of taxation in that township and it has made the Sunday Lake pay more than its just share of the taxes. The proposition that we are going to urge to you in this case is not that the Sunday Lake Iron Company is entitled to special privileges but that it is entitled to the same rights as other tax payers and this suit is brought because we insist that an effort has been made to make it pay more than its just share. We will call witnesses showing the values of other property in the township and the range of assessments generally and witnesses to support the various claims which I have made and numerous questions which will enter into these claims which I will not discuss in detail.

My associate calls my attention to the additional point that when the Board of State Tax Commissioners was considering the value of the mine it had before it the maps of the mine. The board was advised by the representatives of the mining company as to the nature and extent of the ore in the mine and we claim that they reached that valuation by a guess as to how far that ore extended into the ground without any data, such as drilling or exploration by drifts or otherwise, upon which to base it and reached this valuation notwithstanding the offer of the company to show the true facts with reference to the mine.

17 Mr. O'Neill: At this time the defendant objects to the introduction of any evidence for the general reason that the declaration in this case does not state facts sufficient to constitute a cause of action; and for the further reason that the opening statement of counsel for plaintiff does not state facts which constitute a cause of action against this defendant; and for the further reason that it does not appear from the declaration in this case that the tax sought to be recovered from this defendant in this action was levied upon a void assessment, nor were there any facts stated in the declaration nor the exhibits attached to the declaration which would, if proved, affect in any way the validity of the tax or of the assessment which is attacked in this proceeding; and for the further reason that it appears, or rather that it does not appear from the declaration in this case that any appearance was made by or on behalf of this defendant before the Board of Review of Wakefield Township when that body met pursuant to law in 1911, nor was any objection made at that time or at any other time before that board or before any board or person having authority to review the assessment complained of as to the objection urged in the declaration and the opening statement of counsel to the effect that property subject to taxation in Wakefield Township was not included in the assessment of 1911

which is attacked in this proceeding; that is, there was no objection made before the Board of Review of Wakefield Township or any other person or board having authority to review that assessment as to this property which is now complained of as having been omitted from the tax roll not having been assessed. These objections which I have made I wish to apply to all counts in the declaration, both the special count and the common counts. I wish to object upon the further ground that the protest under which these taxes were paid was not sufficiently specific and does not point out any grounds which would invalidate the tax which is sought to be recovered in this action; that is, the protest does not point
18 out any grounds of illegality nor does the opening statement of counsel point out any grounds of illegality, no fraud having been alleged on the part of the assessing officer or board of review or the Board of State Tax Commissioners acting as a board of review, the most that is claimed being that the assessing officers and the State Tax Commission made an error as to the value of that property. That is the most that is claimed either in the protest or in the opening statement of counsel for plaintiff.

The Court: They go further; they say that the State Board refused to investigate after their attention was called to the fact that the balance of the township was assessed at approximately one-third of its true value.

Mr. O'Neill: That is true, but I wish to state as an objection to the introduction of any evidence that no complaint—no specific complaint or objection, as appears from the opening statement of counsel was made to the Board of State Tax Commissioners as to what property was omitted from the tax roll, what the character of the property was that was omitted from the tax roll, nor was the statute followed in making complaint to the Board of State Tax Commissioners; and for the further reason that it appears from the opening statement of counsel that no complaint was made to the State Board of Tax Commissioners of these facts which are now complained of until October 2, 1911, while that board was in session under an order for the purpose of reviewing certain property. No complaint was made as the law requires and no such complaint was made to the Board of Review of Wakefield Township at all.

Mr. Belden: Before Your Honor rules on that, in view of the emphasis that counsel has placed on my opening statement, I wish to broaden it in one respect. If I have not made it clear in my opening, I say that we do assert and allege that the assessment in question is void and that it is illegal and fraudulent and that the assessment was made by the State Board of Tax Commissioners with knowl-
19 edge that it would operate unjustly and for the purpose of making the plaintiff pay more than its just proportion of the taxes in that township.

The Court: I don't think your objection is entirely without merit, Mr. O'Neill, by any means, but for the present it will be over-ruled. I doubt if they must themselves look up to see whether all the property of the township is on the assessment roll and go and object to the board but it occurs to me that this question might come up dur-

ing the trial. I know—using my personal knowledge, at least—that the Sunday Lake Iron Company and the other companies have practically dictated the whole assessment of Wakefield Township by being represented on the Board of Review and having their superintendent a supervisor, and so forth. I don't know whether that condition arises——

Mr. Belden: Will Your Honor give me an exception to the statement which Your Honor has just made in the presence of the jury with reference to this plaintiff dictating the assessments of Wakefield Township?

The Court: Yes. Gentlemen of the jury, we are getting at the legal side of this question and you are not interested in this part. If there was any question of that kind arose, of course, that would be a different question. As to the claim that it was the duty of these companies to go there and see that all this land was on the assessment roll, I do not understand that the law so requires.

Mr. O'Neill: We claim that they waived any objection that they might or could have made by not appearing before the board of review as the law requires; they waived any objection they might have to the manner of the assessment or any objection that might exist as to the assessment as made by the assessing officer.

Mr. Belden: Your Honor will not overlook the fact that this Board of State Tax Commissioners was sitting as a board of review and that it was this board which was changing the relation of the assessments to each other and not the township board meeting in Wakefield in June, 1911.

The Court: I think my statement was too broad about dictating assessments. I don't think I expressed myself as I really wanted to, and that is this: If it appears that the company was present and took part in this board of review meeting and had its officers there taking part in that board of review meeting, then the question may come up as to whether you are not from an equitable standpoint barred from complaining of the fact that property was left off the tax roll. Do I make myself clear?

Mr. Belden. Yes, but I fear Your Honor is under a misapprehension as to the real facts.

The Court: I was trying to find out if that was the point that was being raised.

Mr. Belden: The issue is that after these assessments were confirmed by the board of review in Wakefield Township in a manner which was relatively equal and just, the state board comes in acting, as our supreme court says, both as a board of assessors and in the nature of a board of review and it takes one class of property from that township and raises it up to a valuation which we say is in excess of its true value and at the same time it leaves the assessment of all other property down at the low level where it was left by the board of review and that was done with knowledge of the facts as to the value of this other property. We say that if the valuation of one class of property is raised, it all should be raised so that it would be relatively just and equal.

The Court: What about property left off the roll. That was the

question which wasn't clear in my mind and which led me to make the remark.

Mr. Belden: It is possible that the question of omission from the roll will be of much less importance in this case than the question of general under-valuation on the roll. It is the action of
21 the State Board in changing the valuation of this class of property rather than the action of the board of review that is complained of in this case.

The Court: I understand the situation now.

Mr. O'Neill: In addition to the objections urged, I would like to add one other ground and that is that no complaint was made of the inequality of this assessment after the action of the Board of State Tax Commissioners but any action taken by this plaintiff was taken after the meeting of the board of review of Wakefield township and merely in anticipation of an act on the part of the Board of State Tax Commissioners raising the valuation of the property of this plaintiff. In anticipation of that a complaint was made before that board. There was no request made in writing or otherwise for the Board of State Tax Commissioners to re-convene or hold any meeting pursuant to law for the purpose of placing upon the assessment roll any property that may have been omitted or correct any inequalities that might have existed in the assessment of any property outside of the property of the plaintiff or the property of the plaintiff in Wakefield township.

The Court: Your claim, is, as I understand it, that they are barred from raising this question as to property left off the roll for the reason that they did not appear before the board of review; is that your point?

Mr. O'Neill. Yes, Your Honor.

The Court: And not having objected there, they are barred——

Mr. O'Neill: They have waived any objection that they had a right to make.

The Court: I had in mind precisely the contrary to start with, that having taken part in fixing the assessments they were barred.

Mr. O'Neill: Yes, that is the contrary.

The Court: My idea was just the reverse of that

22 Mr. O'Neill. It would probably amount to the same thing.

The Court. I misunderstood your first objection. I thought you were objecting because having taken part in it, they were barred. The objection will be over-ruled.

Mr. O'Neill. Exception.

BENJAMIN F. BURTLESS, a witness on behalf of Plaintiff, being first duly sworn, testified as follows:

Direct examination.

By Mr. Belden:

I reside in Lansing, and my official position is secretary of the Board of State Tax Commissioners. I have held this position very nearly one year. In the summer of 1911 I was chief clerk of the

Board. In one capacity or another my connection with the Board of State Tax Commissioners extends since August 1900. In the summer and fall of 1911 I was its chief clerk. Acting in pursuance of Act No. 114 of 1911, the Board of State Tax Commissioners employed James R. Finlay, of New York City, a mining engineer, to make a so-called appraisal of the mines of Michigan. Under his employment Mr. Finlay went foward and prepared a report of these properties and the report was published by the Board in pamphlet form and the pamphlet which I hold in my hand and which has been introduced in connection with Mr. Finlay's deposition in this case, is one of a series of pamphlets which the Board published.

After the report was completed and that pamphlet was published, the Board of State Tax Commissioners held a meeting in Gogebic County at the Court House in Bessemer on October 2, 1911. I was present at this meeting. Prior to that meeting, the Board issued an order to the Supervisor of Wakefield Township to appear before the Board with the assessment roll of the Township. The
23 order which you show me I should say is a copy of the order which was served upon the Supervisors.

Which said paper was offered and received in evidence and marked "Plaintiff's Exhibit 1", and is as follows:

EXHIBIT 1.

Order.

Whereas, The assessment rolls for the City of Bessemer and the Townships of Bessemer and Wakefield, County of Gogebic and State of Michigan, for the year 1911, have heretobefore been made by the assessing officers of said city and townships and reviewed by the regularly constituted boards of review of said city and townships, and

Whereas, Said assessment rolls are now subject to inspection by the Board of State Tax Commissioners of said State of Michigan, or by any member thereof, and

Whereas, It has been made to appear that property belonging to the Ashland Iron & Steel Company, Corrigan, McKinney & Co., the Lake Superior Iron & Chemical Co., and the Oliver Iron Mining Company in said City of Bessemer;

The Castile Mining Co., Corrigan, McKinney & Co., Keweenaw Association, Limited, and the Oliver Iron Mining Co. in said Township of Bessemer;

The Brotherton Iron Mining Co., The Cleveland-Cliffs Iron Co., Wm. C. Johnston et al., the Newport Mining Co., the Oliver Iron Mining Co., the Sunday Lake Iron Co. and the Verona Mining Co. in said Township of Wakefield have been improperly assessed upon the assessment rolls of said city and townships.

Therefore Ordered, That the assessment rolls of said City of Bessemer and said Townships of Bessemer and Wakefield shall be

subject to review, and that John D. Shea, assessor of said
24 City of Bessemer, Fred Fahler, supervisor of said Township of Bessemer, and John Simonson, supervisor of said Township of Wakefield, be required to appear at the office of the Board of Supervisors of said County of Gogebic, at the Court House in the City of Bessemer on Monday, October 2nd, A. D. 1911, at ten o'clock (standard time) in the forenoon, and have with them at said time and place the assessment rolls for their respective city and townships for the year 1911 and the sworn statements of the persons, firms and corporations above mentioned, at which time and place said assessment rolls, as aforesaid, shall be subject to review, and that all persons interested therein shall be heard, and

Further Ordered, That at said time and place the assessments of the above mentioned persons, firms and corporations shall be considered by the Board of State Tax Commissioners and such action taken as will correct the irregular or unlawful assessments that may be found to exist, and

Further Ordered, That due notice be given of said hearing in accordance with law.

Witness our hands and seal this twenty-first day of September A. D. 1911.

JAMES H. THOMPSON,
ROBERT H. SHIELDS,
Members of the Board of State Tax Commissioners.

At the time of this hearing, Commissioner Robert H. Shields came to Bessemer in behalf of the Board of State Tax Commissioners. At that time the Commission was composed of Robert H. Shields, James H. Thompson and George B. Horton. Mr. Shields was the only member of the Commission who came to Bessemer. I appeared as acting secretary and Dr. C. K. Leith of Madison appeared as an expert. He appeared as expert advisor to the Commission. Dr. Leith was employed by the Commission to work with Mr. Finlay in connection with estimating and appraising the iron mines.
25 The other employes of the Commission who were here at Bessemer were Mr. C. A. Parker and Walter B. Jaehnig. The last two appeared in a clerical capacity. The session of the Board was held in this room and the Supervisor of Wakefield Township appeared with the roll. The Sunday Lake Mining Company appeared and was represented by Mr. Belden, Mr. C. H. Munger and others. At this time the representative of the Sunday Lake Mining Company made certain statements and representations to the Board.

In connection with testimony of Mr. Burtless, a stenographic transcript of the proceedings before the Board of State Tax Commissioners at the session held in the Court Room at Bessemer on October 2, 1911, in so much as it relates to the Sunday Lake Mining Company, was then offered and received in evidence. Objected to by defendant as incompetent, irrelevant and immaterial, and for the further reason that the Board was not bound to accept the statements or opinions of this plaintiff or any of its agents or attorneys

and because any such statement would be self-serving. Objection overruled. Exception by defendant noted.

Which said stenographic report above referred to was received in evidence and marked "Plaintiff's Exhibit 2."

PLAINTIFF'S EXHIBIT 2.

"At a hearing before the Board of State Tax Commissioners of Michigan, held at the Court House at Bessemer, Michigan, on October 2nd, 1911, the matter of mine assessements in the City of Bessemer and the Townships of Bessemer and Wakefield being under consideration, the following took place:

Mr. Belden: I appear for the Brotherton Iron Mining Company, the Sunday Lake Iron Company, and the Verona Mining Company.

The Verona Mining Company has a lease of the Mikado
26 property, which is owned by the Palms estate. The Sunday Lake Iron Company has a lease of the Sunday Lake property, which is owned by the Wakefield estate, and the Brotherton Iron Mining Company has a lease of the Brotherton property, which is owned by the Keweenaw Association, under the terms of which leases the companies operating the properties have to pay the taxes, and they are therefore interested in this hearing.

I assume from what has already been said that the State Board of Assessors had in mind a review of these assesments on the basis of the Finlay report, or, at least, having the report in contemplation as a means of arriving at a basis. I should like to ask for information before going forward with my discussion so that I may direct my remarks to the exact point. Is the Finlay report to be considered and discussed in making this review?

Mr. Shields: The Board of State Tax Commissioners are here to assess the properties cited in the order, and the assessment to be made by the Board will be based on the knowledge that the Board possesses. It may depend somewhat on Mr. Finlays report and somewhat on information of their own or what information may be obtained from representatives.

Mr. Belden: Having in mind that the principal new development since these assessments were made last spring is the Finlay report, it may perhaps be helpful to this Board if we state our views briefly in respect to the Finlay report as bearing upon a change in assessment. If I am wide of the mark in this regard, then I will not take up your time.

Mr. Shields: I think your remarks are in order and to the point.

Mr. Belden: The companies which I represent have not opposed and do not oppose the assessment of their properties in the manner and on the basis which the tax law contemplates provided other
27 property throughout the district and the county and state are assessed in like manner. They have tried to regard this question broadly, as I think good citizens should. When Mr. Finlay was appointed and began his work, they co-operated with him and his assistants and furnished promptly and voluntarily

the information which he wanted, and had hoped that his conclusions would be so just and reasonable as to make an end of the controversy. After examining his conclusions and the report, so far as we have been able to get it, we are forced to declare, however, that his conclusions seem to us to be wide of the mark; to be so extravagant and excessive that taxation on the basis of his estimate would be virtual confiscation of our properties. We therefore desire to urge upon you today the injustice of adopting the Finlay report, or anything like it, as a basis for forming a just estimate of the value of these properties, and as you have suggested the necessity of brevity, I am going to state our objections rather than attempt to argue them to you in detail.

I should like to make the assertion to begin with that the basis of valuation adopted by Mr. Finlay is not the basis provided by the tax law to be adopted for the assessment of properties. The tax law provides that property shall be assessed at its cash value. It defines the words "cash value" to mean the selling value of property at the place where it is located at the time of taxation and selling under ordinary circumstances and conditions. Therefore I say that unless the results reached by Mr. Finlay coincide with the fair cash value of the properties, they should not and cannot be legally adopted.

If I refer briefly to Mr. Finlay's method of assessment, you will see at once that he has not attempted to reach his conclusion on the basis of cash value. I shall not undertake to argue here the question of whether Mr. Finlay and his assistants were right or wrong on the estimated tonnage of iron ore in these mines.
28 He adopted the figures given him by the mining engineers at the mines as to the tonnage in sight. I do not suppose that we can prove to you that there is not, or that he can prove to us that there is, the amount of ore in the mines which is included under the heading of estimated tonnage, but if we assume for the moment that his basis of tonnage is right, I think we can show you that his method of calculation is radically wrong.

Mr. Finlay, to begin with, in figuring the amount received for ore, limits his investigation to five years, and those five years we know by experience to be the best five years of the industry during a period of the last fifteen years, or since the last panic. During the five years considered by Mr. Finlay the prices of ore were higher than at any other time, and we submit that it would be quite as unfair to adopt the average price of the five highest years as it would be for us to ask you to adopt the average price for the five lowest years during the period of fifteen years which I have referred to, but we do urge upon you as a matter of fairness that he should have extended his averages over the longer period of fifteen years; that the prices for the last fifteen years would be more nearly representative of what experience has led us to believe will be received for iron ore, than the average for a period of five years. If we take the prices—the average prices—on standard ores for the last fifteen years, the price of Bessemer ore would be 58 cents lower, and non-Bessemer ore 67 cents lower, than as estimated in his report. In making that state-

ment, I have reference to the prices as a whole in this district, and not to the mines of the particular companies I represent, because until we entered this room this morning we were unable to ascertain what factor of selling price should be used for the three mines I am representing.

Now, having adopted an average selling price, he then assumes the cost—the estimated cost—of production and figures the net profit per ton. That estimate is made on the assumption that our mines will continue to produce during the future years at the same rate at which they are now producing, and the estimated production of 100,000 tons for the Mikado—the average production of that amount—is strikingly wrong, because during the last year they were only able to produce less than 50,000 tons, and circumstances and conditions at all of the mines do not, in our judgment, warrant the assumption that they can continue to produce at the rate which Mr. Finlay has estimated.

You will note, to go a step further, that he has then multiplied the net profit per ton on that assumption by the estimated number of tons in the mine and in that way has calculated what the total profit would be from each of these mines, and then has determined the present worth of that sum for the life of the mine and adopted that as the present value of the mine. It is perfectly obvious that if any one of those various factors which he has assumed is wrong, then his conclusion must necessarily be wrong. Take the factor of the profit on the selling price. The Brotherton Mine is estimated at $1.86. Now if we were to reduce the average selling price by deducting the 58 cents which I have referred to as being the difference between the average price for five years and for fifteen years, that alone would reduce the estimated profit of that mine about one-third, and the ratio is even greater in the other two mines. Again, if you were to adopt the basis of the actual production at the Mikado Mine last year instead of the assumed production, it would show a longer life, and that assumption would be utterly unreliable, as the actual conditions indicate that the Mikado may never be worked to any extent hereafter, because it is almost exhausted. Thus a calculation based on such a factor would be an unsafe basis of valuation under any circumstances whatever.

I cannot find in Mr. Finlay's report or in his calculations that he has undertaken to compute or calculate the value of these properties on the basis which the statute contemplates; that is, the selling value. Perhaps you may have in your mind the question of what I mean by selling value. It might be well if I suggested what I have in mind. I think that mines are susceptible of being estimated and that we have a just and proper criterion to go by, and which is perhaps quite as reliable as estimates of other classes of property. I think the selling value of ore in the ground, and that is what we are estimating, can be determined by the market value. If A owns a tract of mineral land, he usually disposes of it by making a mining lease for its development, and, in the first instance, the selling value of the ore in the ground would be the average royalty rate in that district for which fee

owners are willing to part with their ore in the ground. I grant you that as time goes on and the mine is developed and the work is extended and equipment added, the ore in the ground has an enhanced value due to such development. Leases on developed mines are sometimes placed on the payment of a bonus representing the supposed value of those developments in addition to the royalty rate on the ore in the ground. That, then, would be a criterion based upon the law of the state and which, if followed, would produce vastly smaller total estimates than those made by Mr. Finlay.

I might call your attention in this connection to the fact that the subject of taxation has received most extended discussion and investigation in the neighboring state of Minnesota, which leads all other states in the production of iron ore. That work was not done hastily in a few weeks, as was necessarily the work done by Mr. Finlay, but was the result of an investigation extending over several years, made with the aid of experts, with the aid of a legislative investigation and by a commission devoting its efforts to that work, and there we find that after the different mines had been classified carefully, and with regard to their relative conditions and values, the highest rate placed upon any ore in the ground in Minnesota is 33 cents per ton, and that is for the large open pit mines containing the highest grade ore in Minnesota. I will not say the
31 highest grade, but mines containing ore which owing to cheapness of production and selling value, are ranked as the most valuable mines. The highest value placed on underground mines is 23 cents per ton, and comparing that with the properties which I represent here, which are controlled generally by Pickands, Mather & Company, who operate mines in Minnesota, those mines producing practically the same grade of ore as is produced here are assessed at about 19 cents per ton. I grant you that the mere fact that Minnesota places a lower rate on the ore is no proof that you ought to do so, but I do urge that the method of calculation which they have followed, and which is clearly shown in the report of the commission made in 1907, to which I have referred, and which I should like to have considered as before you; I do urge that this method which they followed has the merit of being, we think, a reasonable and just manner of assessing property.

So, as I have said, I think Finlay's report, both in the results reached, and in the methods by which the results are reached, is quite indefensible, absolutely unjust and inequitable, and ought not to be adopted.

I wish to call your attention to another phase of this question. If we were to assume here that the estimate proposed by Mr. Finlay simply represented the actual cash value of these mines, there is still another strong reason why this Board ought not at this time and under the circumstances which I shall relate, to assess the mines at what you might consider their actual cash value, even though you determined that to be an amount the same as Mr. Finlay's, or different; it is immaterial. I am informed reliably, and believe, that other property in Wakefield Township is generally assessed at a rate not exceeding 33 1/3% of its real value, and if this Board feels that it

can appoint a time and place to permit proof of the statement which I am making, I shall be prepared to make such proof, and in behalf of these companies I desire to here enter a complaint before
32 this Board that such property is grossly under-valued and generally under-valued throughout the township and that it ought to be raised to its full cash value, and I will file with this Board later in the day a written statement of this complaint, showing the grounds for it, and present it as the statute requires. I wish to bring to your attention sharply the injustice of raising one class of property suddenly to its full cash value of 100% when other property in the taxing district where it is located is assessed at only about one-third of its value. Our Supreme Court has held that such assessments amount to a virtual fraud—I am not using the word in an offensive sense, but I mean legally—upon the party thus raised to the full value of his property.

I wish also to assert the claim before this Board that property generally in Gogebic County is under-assessed and under-valued, and that such property throughout the county is not assessed—I am referring to property other than mines—in excess of 40% of its real value, and if this Board could set a time and place for hearing proof of that matter, we offer to bring such facts to your attention.

I further wish to state that we are reliably informed that property throughout the State of Michigan is generally assessed at very much less than its full cash value; that such property is not assessed at more than from 50% to 60%—and perhaps less—of its value throughout the State of Michigan, and that this is an added reason why the mines ought not to be suddenly jumped to their full cash value when other property is assessed at only a fraction of its worth.

The principle of taxation in this State, as I understand it, is two-fold. It is contemplated that property shall be assessed at its cash value. It is also contemplated that Boards of Review, such as this Board, and other Boards of Review throughout the state, will so correct and adjust these assessments as to make them relatively equal, and that it is just and essential that assessments shall be relatively equal as it is that they should be at cash value.

33 And now, having brought these general conditions and general statements before the Board, I urge upon you in behalf of these companies, that you ought not to adopt the estimates which Finlay has placed upon their mines, first, because the estimates greatly exceed any amount which can reasonably be said to represent the fair cash value of these properties; and second, because even though these mines were assessed at their full cash value, other property generally in the Township of Wakefield where they are situated, and in the County of Gogebic where they pay their county tax, and in the State of Michigan where they pay their state tax, are notoriously under-assessed, and that an assessment of full value on these mines would mean a virtual fraud upon the rights of these companies.

At the afternoon session of the Board the following took place:

Mr. Shields: Mr. Belden, do you represent the Verona Mining Company?

Mr. Belden: Yes.

Mr. Shields: Do they own the Mikado?

Mr. Belden: They own the lease of the Mikado.

Mr. Shields: And pay the taxes?

Mr. Belden: Yes; you will find that I explained that this morning.

Mr. Belden: I would like to file with you now in behalf of the Verona Mining Company, the Sunday Lake Iron Company and the Brotherton Iron Mining Company the written complaint and request drawn on the lines of my verbal statement this morning."

Mr. Burtless' Testimony Continued.

Mr. Belden:

Q. Mr. Burtless, I notice that in making that statement to the Board on October 2, 1911, I there stated that Mr. Finlay used the period of five years (or at least so it appears in the record).
34 What is the fact as to the price that he took? It covered seven years, did it not?

A. I think it did. I wouldn't be positive. After refreshing my recollection by reference to page 34 of the volume containing Mr. Finlay's report, I find that the period of seven years was used for calculating the value of all grades of ore based on the average quotations for standard ores for that period. So far as I know, that was the price period taken.

At the time of this hearing in Bessemer, the Sunday Lake Mining Company and the other mining companies filed written complaint and protests with the Board.

A copy of the complaint filed by the Sunday Lake Iron Company and the other companies with the Board of State Tax Commissioners at Bessemer on October 2, 1911, which by agreement was offered in lieu of the original, was then offered and received in evidence.

Which said paper last above referred to was received in evidence and marked "Plaintiff's Exhibit 3," and is as follows:

EXHIBIT 3.

"To the Board of State Tax Commissioners of Michigan:

The undersigned, the Verona Mining Company, the Sunday Lake Iron Company, and the Brotherton Iron Mining Company, all corporations organized and doing business under the laws of Michigan, and tax-payers in the Township of Wakefield, County of Gogebic, and State of Michigan, represent to this Honorable Board, this day in session in the Court House at the City of Bessemer, in said county and state, that real and personal property, other than the iron mining properties, located in the Township of Wakefield, in said county

and state, are generally under-valued and under-assessed by the assessing officers of said township, and that large amounts of
35 such property, subject to taxation under the laws of Michigan, are entirely omitted from the tax rolls in said township, and that the undersigned offer to present proofs thereof to this Board at such time and place as it shall appoint, that such real and personal property in said Township of Wakefield is assessed at only one-third of its true cash value; and the undersigned do formally complain that such assessments are erroneous, unjust and inequitable, and hereby request this Honorable Board to review and correct such assessments and omissions in accordance with the tax laws of the State of Michigan.

Dated at Bessemer, Michigan, this 2d day of October, 1911.

VERONA MINING COMPANY,
C. H. MUNGER, *Gen. Mgr.*
SUNDAY LAKE IRON COMPANY,
C. H. MUNGER, *Gen. Mgr.*
BROTHERTON IRON MINING CO.,
C. H. MUNGER, *Gen. Mgr.*"

Mr. Burtless' Testimony Continued.

Following the 2nd of October, Mr. Shields, Dr. Leith, myself and the other employes accompanying the Board held similar reviews in Iron Mountain, Crystal Falls and Marquette. We spent practically the next week going from county to county holding similar hearings. I was with Mr. Shields and the others all the time from the 2nd of October until these reviews were completed and new assessments made. During this time, Mr. Shields did not visit Wakefield Township nor did he go to these mines himself. He did not go out to see other property in Wakefield Township. Following the filing of this complaint on October 2nd, 1911, the Board of State Tax Commissioners did not give the Sunday Lake Iron Company or any one else any further hearing to review the assessment of other property in Wakefield Township, not that year. The action of the Board
36 so far as Wakefield Township was concerned, was limited to the iron mines in that township.

On October 6th, we came back to Bessemer again, and I think on the next day, the 7th, we were at Marquette. Mr. Shields presided over the second hearing at Bessemer. There were other gentlemen present representing other companies. Among them I remember Chas. M. Humphrey, of Ironwood, a lawyer representing the Oliver Iron Mining Company. Also Mr. H. M. Norris, of Ironwood, a lawyer representing the Newport Mining Company. My impression is that they had some discussion and talk in that open session with the Board about property values in Gogebic County. I remember that there was such a discussion.

The plaintiff then offered in evidence a transcript of the proceedings of the meeting of the State Tax Commission at Bessemer, October 2nd, 1911, and the statement there made by Mr. Shields with reference to valuations generally of other property in Gogebic County

and also what Mr. Humphrey said which called out the statement from Mr. Shields.

Mr. O'Neill: That is objected to as incompetent, irrelevant and immaterial, having no reference whatever to the property of this plaintiff or the assessment of any property in the Township of Wakefield which is complained of in this case.

The Court: I think it would be advisable to leave out the statement of Mr. Humphrey, but the statement of Mr. Shields will be admitted. The objection is sustained regarding Mr. Humphrey's statement.

Mr. O'Neill: Exception.

Mr. Belden:

Q. Do you remember Mr. Frank A. Bell, a lawyer from Ishpeming, who was present here at that meeting?

A. Yes.

Mr. Belden: It seems to me it is absolutely necessary to include that question which Mr. Bell put in connection with Mr.
37 Shields' answer in order to show the sense (Hands transcript to Court).

The Court: Yes, I think so.

Mr. Belden: That is a direct question that Mr. Bell put.

The Court: Yes, you may do so. You will have the benefit of an objection and an exception to this, Mr. O'Neill.

Mr. Belden:

Q. You may state the facts as to whether or not Mr. Humphrey and Mr. Norris and Mr. Bell at that time called attention of the Board to the fact that other property in this county generally, including Wakefield Township, I mean property other than the iron mines, was under-assessed.

Mr. O'Neill: I object to that as incompetent, irrelevant and immaterial. It certainly would not be fair to permit any such evidence. It is not shown that either of those gentlemen had any knowledge whatever as to the value of property in Gogebic County. They were not under oath. Any statement they might make would not be evidence as to the actual value of any property in Gogebic County.

The Court: I think it is true that it would be proof as to what the value was, but it will be admitted on the theory that it called the attention of the State Board to the fact that such a claim was made. It will be admitted for that purpose. Exception by defendant.

Mr. Belden:

Q. I do not ask you to state what was said, but I ask you the general fact as to whether they did come and call the attention of the Board and make the claim that other property was under-assessed.

Mr. O'Neill: I object to it for the further reason that as appears from the evidence so far introduced the meeting of the Board of State Tax Commissioners was for the purpose and the only

purpose of reviewing the assessment of certain specified properties named in the order and under the statute the Board would have no authority and no right to go outside of the property named in the order and could review no other property.

The Court: I had that idea in mind myself. I have written down a question here—"Could other property be reviewed and assessed upon the order given?"

Mr. O'Neill: Absolutely not, under the statute.

Mr. Belden: Has Your Honor in mind the language of the order?

The Court: Yes, that was when I wrote down this question.

Mr. Belden: Even though Your Honor is correct in that view, we were asking the Board for another hearing.

The Court: You may take the answer. Exception for defendant.

Mr. Belden:

Q. Do you remember that general fact?

A. I wouldn't say who made those objections, but I remember that others than you made the same objection.

Q. With reference to the general under-assessment of the other property in Gogebic County?

A. Yes.

Which said paper last above referred to was offered and received in evidence and marked "Plaintiff's Exhibit 4", and is as follows:

EXHIBIT 4.

"Mr. Shields: If we had the same detailed information as to valuation of all the other property in these different counties, and had the time, we would have had a general hearing. If we had the general data and the time to cover all these properties, we would have had a general review.

It wasn't detailed information such as we had, in Finlay's report. That was obtained by getting a list of transfers of property and taking that and comparing it with the actual assessment roll. And it was necessarily of a limited number of descriptions. In order to have the same information on that property as we have on the mining property, we would have had to have information on every description of property, but with the method we had, we only had information on those parcels which were actually sold, so we had no official knowledge of the valuation of the large bulk of the property which had not been sold which we do get when we order a general review. * * * We have knowledge of low assessments in practically every assessing district in the State, but it would be a physical impossibility to have hearings in every district in the State.

Mr. Bell: You had sufficient information, did you not, so that you felt warranted in reporting to the State Board that property in many counties and especially the iron counties was not assessed at anything like cash value, on property outside of the mines?

Mr. Shields: We have data showing any number of instances

where property is assessed a good deal lower than even general property in the mining counties, but this data did not reach us until within a week before the Board of Equalization met.

Mr. Bell: Each year you have data on which you recommend to the State Board of Equalization that property in many counties, and especially in the iron counties on property outside of the mines, is assessed at only a small proportion of its cash value?

Mr. Shields: Not each year.

Mr. Bell: Each five years?

Mr. Shields: Yes. For the past two years we have been engaged in this work of determining the assessing value of the State for the State Board of Equalization. To that work, we have been limited to ten men in our office in connection with the usual work they are obliged to do in the office. And it has been impossible for us with that force to cover in detail all the descriptions of property in the State like Finlay covered the property that he covered.

Mr. Bell: You were satisfied, were you not, from the information you did have that properties in these counties outside of the mining property was not assessed at full value?

Mr. Shields: Yes; there was no question about that?

Mr. Burtless' Testimony Continued.

Following the hearings and reviews in the different counties that I have spoken of, the Board of State Tax Commissioners revised and changed certain assessments of property in the Upper Peninsula. The class of property so changed was mining property. The properties mentioned in the order. At that time the Board of State Tax Commissioners revised the assessments of the iron mines generally as well as the particular mine of the Sunday Lake Iron Company. I have not in my possession the assessment book in which the Board entered or made the new figures or new assessments. Those figures were entered on the assessment roll of the Township and the certificate was attached to the roll. No changes were made at that time in the assessment of property other than the iron mines in Wakefield Township or elsewhere throughout the Upper Peninsula. During the second hearing on October 6th, neither Mr. Shields or the other members of the Board went out to Wakefield Township to my knowledge. I was with them practically all the time.

Cross-examination.

By Mr. O'Neill:

Mr. Finlay was employed pursuant to Act No. 114 of the Public Acts of 1911. Dr. Leith was employed by the Board of State Tax Commissioners at the time of these reviews. At the time of the Finlay appraisal he was employed by Mr. Finlay and paid out of the appropriation made by the Legislature, which was in a way, through the Board of State Tax Commissioners, but Mr. Finlay paid his own assistants. The State of Michigan paid for the two and one-half

months' work appraising the mines something like twenty-six thousand dollars.

41 The Board of State Tax Commissioners during the month of October, 1911, held reviews in four counties of the Upper Peninsula, Gogebic, Dickinson, Iron and Marquette. The first review was held in Gogebic and the last in Marquette. I do not recall what day of the week the review was held on in Marquette, I think it was Saturday. The purpose of attempting to get the review completed was to have the rolls returned to the Supervisor before the meeting of the Boards of Supervisors at the October session which was called the following Monday. This was to have the rolls for use at the annual October meeting. I think the annual meeting was held on October 9th, 1911. I think there were no reviews held by the State Board after the annual meeting of the Boards of Supervisors in 1911.

I have not any written reports made by the plaintiff to the Board of State Tax Commissioners as no reports were made except as they were sent to Mr. Finlay. I have no copy of the report filed with Mr. Finlay by the Sunday Lake Iron Company. I have the Brotherton report.

The representatives of the plaintiff and other mining companies appeared at a review held by the Board of State Tax Commissioners in Bessemer on October 2nd, 1911, and urged or presented their objections as to why the figures in the Finlay report should not be adopted. The valuations as finally fixed by the Board of State Tax Commissioners was materially less than the valuations reported by Mr. Finlay.

Q. State if reductions were made in his report to the Board of State Tax Commissioners?

A. Yes, sir.

Q. On the objections raised and urged by this plaintiff and the other mining companies and on the showing made, material reductions were made by the Board of State Tax Commissioners from the Finlay figures?

A. Yes, sir.

I heard the opening statement to Mr. Belden, the attorney

42 for the plaintiff in this case. I heard the grounds which he stated to this jury on which they were going to ask for a verdict for the amount of taxes paid for 1911.

Q. Can you state from your own personal knowledge what consideration influenced the Board of State Tax Commissioners in fixing the valuation finally fixed by that body on the various mining properties on this range?

A. I don't think that would be a proper question for me to answer. I had no part in the fixing of the valuation. Mr. Shields, the Commissioner, did that. I think that would be a matter for him. I should say that substantially the same objections were urged to the valuation as placed upon this property by Mr. Finlay in his report as are now urged in this case to the valuation as was finally fixed by the Board of State Tax Commissioners.

The valuation placed upon the Sunday Lake property by Mr.

Finlay was $1,460,000.00. The valuation as fixed by the Board of State Tax Commissioners which I give from memorandum which I have was $1,071,000.00. A reduction from $1,460,000 to $1,171,000. A reduction of approximately $400,000.

I do know Mr. Finlay, but I am not intimately acquainted with him. He is supposed to be the best consulting engineer that could be obtained by the Board at that time.

Q. Mr. Burtless, you may state if a review of property other than mining property has been made by the Board of State Tax Commissioners and used by the Board of State Tax Commissioners since 1911.

Mr. Belden: Objected to as incompetent, irrelevant and immaterial.

Mr. O'Neill: I wish to show the time necessarily expended in making such a review and to show that it was impossible for the Board to make such a review as plaintiff claims should have been made.

Mr. Belden: It is our contention that lack of time would
43 constitute no possible justification for raising one class of property without raising all assessments because they have just as much time for the other properties as they have for the mines.

The Court: Take the answer. Exception.

A. Yes. A general review of all property of Gogebic County was held during the year 1912. Men were at work in Gogebic County continuously the greater part of the year, commencing January 1912, and completing the same in October, 1912.

Q. Can you state about how many were employed?

Mr. Belden: I object to this as incompetent, irrelevant and immaterial and ask that all testimony regarding subsequent examination or valuation to be taken subject to objection and exception.

The Court: You will have the benefit of the objection and exception.

A. The number varied at different times. There probably at no time were less than eight or ten men; there were as high as twenty-five at one time. The Board of State Tax Commissioners consists of three members. During the time that the reviews were being held in the Upper Peninsula in October, 1911, other members of the Board were holding reviews in other counties. A review was in progress in Charlevoix County during the same week as the review was held in the mining counties. I am not positive whether one or two members were there, but I think that both members were there. My information and knowledge in regard to Gogebic County comes from having traveled over it somewhat and general knowledge. A personal examination was made during the year 1912 of every piece of property in the county.

At the time the review was held in Gogebic County on October 2nd, 1911, notices had been issued for the holding of reviews in other counties of the Upper Peninsula by the Board of State Tax Commis-

sioners. The time of the Board of State Tax Commissioners
44 between the 2nd of October, 1911, and the date when the regular annual meetings of the Board of Supervisors on October 9th were held, was very completely taken up by those other reviews; it was necessary to travel at night a greater part of the time to get from one county to another in time to open reviews.

Q. I will ask you if it would have been possible for the Board to have reviewed all the property in Gogebic County between October 2nd and the date set for the meeting of the Board of Supervisors in October, 1911.

Mr. Belden: Objected to as incompetent, irrelevant and immaterial.

The Court: Take the answer.

Mr. Belden: Exception.

A. No, sir. In the first place, the law would require a notice dated at least seven days prior to the date of the hearing. Mr. Finlay's report was made public after it was transmitted to the Board of State Tax Commissioners just as soon as it could be printed. I think the first copies were brought from the printer when we came up to attend these reviews on October 2nd. The figures had been made public through the Board of Equalization through the newspapers. The Board of Equalization gave out the Finlay figures and a number of the mining representatives obtained them at our office before the meeting of the Board of Equalization. I do not remember that this plaintiff or Mr. Belden obtained any figures or any information concerning Mr. Finlay's report or the facts contained in it. I do not know that these facts were given to any agent, employe or attorney representing this plaintiff.

Q. You do know, however, that the report was not considered secret; it was open to everybody?

A. The results of the appraisal were given out by the State Board of Equalization. I think it was on the third Monday in August; the time of meeting was fixed by statute and it is the same
45 every year, or rather every five years. It met in August, 1911. At that meeting the valuation of various counties of the State were materially increased, not only in the iron counties but in a number of others; in fact, most of them. The Board of Equalization at its meeting in August, 1911, materially increased the valuation of Gogebic County. The valuation as fixed by the Board of Equalization at that meeting was $40,000,000. I did not attend the session of the Board. I could not say if this plaintiff or any representative of it appeared before the State Board of Equalization. I have not in my possession the report furnished to Mr. Finlay by the Sunday Lake Iron Company. I have the report of the Brotherton Iron Mining Company to Mr. Finlay. This report was among the papers turned over to the Board by Mr. Finlay after the appraisal was completed.

Which said report last above referred to was offered and received in evidence and marked "Defendant's Exhibit A." (Said report

is included in the supplement attached to and made a part of this bill of exceptions.)

Mr. Burtless: I have not in my possession the report furnished to Mr. Finlay by the Sunday Lake Iron Company. The reports of the Verona and Sunday Lake Iron Company are in the office of the State Geologist; they are being used in another appraisal. I think substantially the same information is contained in this printed report. I do not know that everything included in the report made by the company is in the printed report, but the figures in the printed report are taken from the report made by the company. We turned over these reports to Mr. Allen, the State Geologist, about the 1st of January. An arrangement has been made between the State Geological Survey and the Board of State Tax Commissioners to have a re-appraisal made of the mining property for the use of the assessing officers in making the assessments this year; these reports and in fact the entire data submitted by Mr. Finlay were given to
46 the Geological Survey for the purpose of comparison.

Dr. Leith is not at present in the employ of the Board of State Tax Commissioners. There is no arrangement between the Board and Dr. Leith in regard to his acting as an expert advisor on appraisals or reviews at the present time. To my knowledge, Dr. Leith is not employed by the State. I cannot say how many surveyed townships there are in Gogebic County.

Redirect examination.

By Mr. Belden:

From April 25th, 1911, the date when Act No. 114 went into effect, the State Tax Commission was aware of the fact that an appraisal would be made of the mines in 1911. After his employment by the Board Mr. Finlay took charge of the work of that appraisal and selected his own assistants, making his headquarters chefly at Houghton, Michigan. Until he finished his report, that work was conducted by him and his staff independently of the work of the Board at Lansing. The Board did not participate in it at all until after it received the report. The men employed by Mr. Finlay to work with him in appraising the mines were not the same men employed by the Board afterwards to appraise other property. The work of the two sets of men was entirely separate in all respects. Between April 25th, 1911, and the time when these reviews were held up here on October 2nd and afterwards, the Board did not make any attempt to make an appraisal of other property throughout the iron counties in general, or Wakefield Township in particular. Wakefield Township does not contain any large cities like Ironwood or Bessemer. It consists generally of forest lands with one small village community.

47 Q. So that the time consumed in appraising the property of Wakefield Township would take only a comparatively short time with such a staff of men as you put into Gogebic County in 1912?

Mr. O'Neill: I object to that question. Counsel is persistently asking leading questions.

The Court: Take the answer.

Mr. O'Neill: Exception.

A. In the first place, the Board, prior to the latter part of August, could not have employed the forces that it did in 1912; it had not sufficient authority; they were limited until August in the number of men they could employ. The tax law fixed the limitation. Prior to the amendment of 1911, the tax law permitted the employment of only ten men. The 1911 amendment allowed more with the consent of the Board of State Auditors. After this law went into effect in 1911 and until after the 1st of January, 1912, no effort was made to appraise property other than the iron mines, in these counties, as the entire force of the Board was engaged in that work in other counties. Nothing was done up here until the first of 1912; I think it was about the first of the year that the work was started up here.

I have mentioned the change in the equalized valuation of Gogebic County by the State Board of Equalization in August, 1911. Prior to that time, the equalized valuation was $25,000,000. It was equalized in 1906 at $15,000,000, and in 1911 at $40,000,000, an increase of $25,000,000. The change from $15,000,000 to $40,000,000 in equalized valuation would raise Gogebic County's portion of the State tax which it would have to pay beginning with 1911. I cannot state positively just what the newspapers did contain regarding the meeting of the State Board of Equalization and the Finlay appraisal. It was my impression that these figures were given out for the individual mines. As to the value of the individual mines the detailed tables contained in this report
48 were not given out. I am not positive about this. The report was printed by the State Board in the pamphlet which I hold in my hand. The first numbers issued were brought here on October 2nd, 1911; I brought the first copies that came from the press.

Turning in Mr. Finlay's report to the estimate of the value of the Sunday Lake property, I find that the amount he places on it is $1,460,000. As I understand it, Mr. Finlay considered the profits in determining that value. Referring to that item in the report, that sum reported is the estimated present worth of the profits, total profits expected. That sum is placed at $2,190,000. Mr. Finlay obtained the present worth of this last sum and got as his credit $1,460,000. I did not take part in making the assessments of these properties, and I do not know in what manner the Finlay calculation was in fact applied to these assessments.

Recross-examination.

By Mr. O'Neill:

Q. Can you state, Mr. Burtless, if reviews were held in various counties of the state prior to October, 1911, and during the summer of 1911?

Mr. Belden: Objected to as incompetent, irrelevant and immaterial.

The Court: Take the answer. Exception for plaintiff.

A. There were other reviews held. During the summer of 1911 the employes of the Board were engaged in this work in other counties and were working all the time. The full number authorized by law were employed. The first duty of the Board in 1911 was to prepare data for the State Board of Equalization, considerable of its force was employed a greater part of the time on that work for more than a year. This was the first meeting of the State Board of Equalization since 1906. The Board of State Tax Commissioners is not required by law to hold a review in every county of the state once each year, but the law provides that the Board or some mem-
49 ber thereof shall visit each county in the state at least once a year. There are in this state eighty-three counties.

Dr. C. K. LEITH, a witness on behalf of the plaintiff, being first duly sworn, testified as follows:

Direct examination.

By Mr. Belden:

I reside at Madison, Wisconsin. I am a geologist, being Professor of Geology at the University of Wisconsin. I have acted in this capacity for ten years. In preparation for this work, I have taken the ordinary Bachelor's Degree and a Doctor's Degree from four years of graduate study at the University of Wisconsin.

In 1911, I was employed by Mr. J. R. Finlay to examine the iron mines and estimate the tonnage of iron ore in connection with his appraisal of the iron mines of Michigan. I examined the mines and estimated the tonnages of iron ore. I do not remember the exact dates within which this work took place, but I devoted the larger part of June, all of July and the early part of August to it. I had general charge of this work of estimating the tonnages of the iron mines. After I had been over the mines through all the counties, Mr. Finlay took a trip with me to visit some of the important properties, and we examined some of these properties together. To my knowledge, Mr. Finlay was never underground at the Sunday Lake property. He was not underground at the Brotherton properties. He visited the office of the Brotherton Mine and also, I think, the office of the Mikado Mine, which is owned by the Verona Mining Company. I was with him on these occasions. His investigation at these properties consisted of an examination of the blue-prints and cross-sections and in questioning the superintendents and engineers and getting the property in his mind.

50 After I completed my examination of the iron mines, I made a report showing the tonnages of the same to Mr. Finlay. My report did not extend outside of the question of tonnages and a general description of the physical condition of each of the properties visited. I did not take any part in the preparation of his method of calculating the estimated profits of the mining busi-

ness of each of these companies. My work in this connection did not go outside of the question of estimating the tonnage which was used in making the calculation, or on which it was based.

After Mr. Finlay's report and appraisal was submitted to the State Board and printed, I assisted the State Board of Tax Commissioners in their reviews, which have been mentioned in this case. I was present at Bessemer on October 2nd, 1911, and I attended these other reviews that same week in the month of October in the other counties which Mr. Burtless has mentioned. I worked with Mr. Shields in making out the valuations of the iron mines which were fixed and determined by him as a member of that Board.

Referring to pages 90 and 91 of Mr. Finlay's report entitled "Summary of Production and Expenditures, District No. 1 of Gogebic County," the estimated total tonnage of the Sunday Lake property is given at 1,500,000 tons. This estimate of the tonnage is different from the estimate I placed upon it.

Q. Calling your attention to the Finlay method of calculation, I will ask you to state to the jury the principle and method which Finlay used in calculating the value of the mining business of this county as shown by his report and as used by the Board?

Mr. O'Neill: I believe, Your Honor, that the report would be the best evidence as to what the theory employed by Mr. Finlay was.

Mr. Belden: The report outlines it, but unless we are going to read this report to this jury, it is going to be mighty hard
51 for them to know what the Finlay method was. Here is a witness with full knowledge of the situation and he can give a nice, clear, concise statement of it.

Q. Have you read this report?

A. I have.

Q. State the facts as to whether or not you are personally familiar with the principle and the method of calculation used by Mr. Finlay in it.

A. I am.

Q. State briefly an- concisely for the jury what that principle and method of calculation which Mr. Finlay used was.

Mr. O'Neill: I object to that as incompetent, irrelevant and immaterial. The report itself is the best evidence of the theory of the appraisal used. I will say here that the theory only covers about a page or a page and a half of the report. Mr. Finlay put it in clear and concise language; we have no objection to reading the theory from the report in Mr. Finlay's own language.

The Court: The objection is sustained.

Mr. Belden: Note an exception.

Dr. Leith: Turning to page 11 of the printed report, I will read the paragraphs on that page which state the principle and method of his calculation (here witness reads first two paragraphs on page 11 of plaintiff's Exhibit No. 13, found in the supplement herein and made a part of this bill of exceptions).

I was familiar with the method of calculation which Mr. Finlay worked out in pursuance of that principle which I have just read. On page 95 of this same pamphlet with reference to the property of the Sunday Lake Iron Company, the average profit per ton as based on the preceding seven years' experience is $1.46. The method by which Mr. Finlay obtained this figure and the data necessary therefor is all indicated here in the total. By reading the headings we can readily get this result. He considered the average number of men employed, wages and salary, amounts charged for
52 administration, insurance, legal expense, interest, miscellaneous, total general expense, mining, exploration, development and under the head of construction, he considered shafts construction and machinery. Then he took into account the total cost of the mine and then the freight, both rail and lake, commissions and the total expense for transportation. This will give the estimated total cost. From that Mr. Finlay deducted the selling price to get the average profit. I believe that the average selling price as shown by his report was taken for a period of seven years. The estimated lif of the Sunday Lake property was determined by dividing the total expected tonnage by the estimated annual production. The estimated annual production of the Sunday Lake Mine Mr. Finlay placed at 100,000 tons. This would make the life of the mine approximately fifteen years. I participated with Mr. Shields in making the assessment that was finally fixed against the Sunday Lake property. I applied the principle of the Finlay appraisal to the supposed tonnage in that property. I assisted Mr. Shields in making up the calculation used and in reaching the result in assessing the Sunday Lake property.

Q. State the fact as to what extent, if any, you used the Finlay appraisal; the Finlay method of calculation and appraisal?

Mr. O'Neill: I object to that as incompetent, irrelevant and immaterial.

Mr. Belden: We expect to follow this up by showing that Mr. Shields, the only member of the State Board, in fact, used and applied, at least to a considerable extent, and in the form that Finlay had it, this method of calculation and appraisal.

Mr. O'Neill: We submit that such proof is incompetent, irrelevant and immaterial; it is immaterial in this case whether the Board of State Tax Commissioners followed the theory of appraisal adopted by Finlay or anybody else; all the law requires is that the Board in reviewing these assessments is to use its best judgment and
53 best information; it does not make any difference whether or not the appraisal relied upon was erroneous, or whether they relied on any theory as long as they used their best information and exercised their best judgment; that is all the law requires.

The Court: I think that is true as to the law; I suppose in determining whether they did use their best judgment we have a right to find out just what they did, that would be a question for determination. They might say, we used our best judgment; that is not

sufficient. It is a question of finding out what they did do and then determining whether they used their best judgment.

Mr. O'Neill: Exception.

Dr. Leith: In reaching the valuation placed against this property, the general Finlay scheme of valuation was adopted in so far as it related to the average profit per ton; it was modified in so far as the tonnage of ore was assumed which was different from my own judgment of the tonnage of ore, so that we took a new tonnage of ore and we calculated the total profit on the basis of the new tonnage rather than on the tonnage stated in Finlay's report. We used the Finlay factors with no change except in so far as after the valuation had been arrived at by the method I have just described, additional small percentage cuts were taken as a flat cut off the valuation to allow for what we regarded as the hazards of the business, and partly on a basis of specific argument brought by the mining company. In using the Finlay factor we used the Finlay method of calculating the present worth of profits to be derived from the mine. The flat cuts that I have mentioned which were made on the Sunday Lake property were, first, a five per cent. cut and then a ten per cent. cut. This could be figured as applying to value or tonnage, or total. It was a flat cut. I did not make any other independent calculation or determination of value of the Sunday
54 Lake Mine except through applying the Finlay method of calculation in the manner I have stated.

Q. So far as you know, did Mr. Shields or any one else connected with the Board?

A. I can't answer for Mr. Shields. The figure which was reached by myself and Mr. Shields was the one which was applied as the assessed valuation of the property.

Q. I call your attention to the Brotherton Mine. I will ask you to state the facts as to what extent, if any, the Finlay basis and method of calculation was applied to that property in determining its assessment in 1911.

Mr. O'Neill: Same objection to that as to the same evidence sought from this witness with reference to the Sunday Lake.

The Court: Same ruling.

Mr. O'Neill: Exception.

Dr. Leith: The Finlay method and values were used, but for a different tonnage and the result based on the new tonnage was likewise subject to a flat percentage cut of five per cent. and ten per cent. My general statement with reference to what was done with the Sunday Lake Mine is also true with reference to the Brotherton; we used the same factors and the same general method of calculation.

Q. State the facts with reference to the Mikado Mine. State to what extent the Finlay method and basis of calculation was used by the Board in arriving at the valuation of that property.

Mr. O'Neill: Same objection.

The Court: Same ruling.

Exception.

A. To essentially the same extent as in the Brotherton and Sunday Lake Mine- the same factors and principle of calculation was used, applying them to a different tonnage and then afterwards making arbitrary cuts in the manner I have stated.

55 In connection with the Finlay report and at the hearing held on October 2, 1911, the Sunday Lake Iron Company, by its representatives, made certain claims with reference to the tonnage in that mine and submitted maps and reports, asserting that these maps and reports showed the correct tonnage in the mine.

The Court: That refers to the known tonnage?

Mr. Belden: Both these reports which have been discussed which I think have been offered in evidence, and if not, we will offer in evidence, cover both the known and the estimated tonnage. My question referred to the known tonnage and estimated tonnage. We offer in evidence the report filed by the Sunday Lake Iron Company with J. R. Finlay for use in connection with his appraisal, which was then turned over to the Board of State Tax Commissioners.

Dr. Leith: The report which you now show me is the report which the company presented in connection with the Finlay investigation. I do not remember whether this report or a copy of it was presented at the hearing, although my memory is that it was. The report represents the claim which the company put foward with reference to the quality of ore in the mine; that is to say, the estimated ore above the bottom level, 150,000 tons, and the estimated ore below the bottom level 100,000 tons.

Which said report last above referred to was received in evidence and marked "Plaintiff's Exhibit 5" and said report is included in the supplement attached to and made a part of this bill of exceptions.

Dr. Leith: The general statement I have made about the position of the Sunday Lake Company is also true of the Brotherton and Verona. These reports represent the claims which they made to Mr. Finlay and myself both as to the ore in sight and the estimated probable tonnage in the mine.

As I remember it, the twentieth level was the bottom level
56 of the Sunday Lake Mine when we were there. I do not remember whether or not there were any underground workings which extended below the twentieth level. As I remember it, there had not been any diamond drilling done by the company which would extend below the twentieth level. There was no working actually showing ore below that level, as I remember it, unless possibly some winze was down. My memory is at fault there. The same situation was true in regard to the Brotherton Mine, as at that time the workings had not gone into the twenty-first level. At the Mikado Mine the so-called bottom level was not one of the main levels; it was a winze which had been carried down and not fully developed. Below that there was nothing.

In determining the question of the quantity of ore below the bottom

level in any of those mines, we were acting upon assumption as to the existence of ore.

Q. Now since this examination of 1911 I will ask you to state whether or not you have had further occasion, in connection with the work of the Board of State Tax Commissioners, to consider the underground workings and the nature and extent of the ore bodies in any one of these mines, and if so, which?

Mr. O'Neill: That is objected to as incompetent, irrelevant and immaterial, as to the conditions that existed in any of these mines subsequent to the date of the assessment complained of; it could have no bearing upon the issue involved in this case.

Mr. Belden: It may help to show the competency of this question if I explain that I expect to follow this up by showing by this witness that he has had occasion since 1911 to examine or, at least to consider the showing at the Brotherton Mine in the light of later developments and had reached the conclusion that the estimate made in 1911 was, in fact, incorrect and that the estimates made by the company's engineers were correct.

57 The Court: Assuming that to be true, I suppose if the mistake was an honest mistake it would not vitiate the tax.

Mr. Belden: Might it not in this way: this question of honesty relates to the exercise of the judgment and discretion of the assessing officers. Now we are dealing with the collection of material and data upon which the fair exercise of this judgment is going to rest; if a gross mistake was made in the collection of that data and of those facts then it would of necessity offset the most honest judgment and discretion that the assessing officer could use.

The Court: But would that amount to a fraud?

Mr. Belden: That, coupled with the other claims made in this case, would, I think constitute fraud. The legal fraud exists in its essence in the placing of the unequal burden of taxation upon the plaintiff when that is done under circumstances which must be regarded as intentional because every man is bound to intend the consequence of his acts. In this case the circumstances are such that I believe will support the claim, and it constitutes, in my opinion, legal fraud.

The Court: My mind is not clear on the question. This I can say will be an important question in the case. Because I am in doubt, the evidence will be admited without prejudice and may be stricken out later. You will have the benefit of an exception, Mr. O'Neill, and it will be admitted without prejudice.

Mr. O'Neill: We object to all evidence as to the condition of the Sunday Lake Mine, or any other mine, subsequent to the action of the assessing officer or Board of Review which is complained of.

The Court: My impression is that the evidence is competent. In view of the fact that you are arranging for this witness to leave, I will admit it for the present. I may strike it out later.

58 Dr. Leith: All three of these mines were considered at two subsequent hearings; one special hearing at Houghton in June 1912 and another at the regular hearing in the fall of 1912 at this place.

The Court: At this time, I think, gentlemen of the jury, perhaps a word ought to be said to you, we are trying here the case of Sunday Lake Iron Company against Wakefield Township and not the Brotherton. Under a stipulation of the attorneys, evidence regarding these other two mines will be admitted for the sake of utilizing the evidence of this witness so that he may be excused, being from away, but keep in mind that the case which you are trying here is the case of the Sunday Lake Iron Company against the Township of Wakefield. There are two more cases coming up for trial in which this testimony will be used regarding the Brotherton and Mikado and that is why they are going into questions regarding these other two mines in this case, but we are only concerned with the question of the taxes of the Sunday Lake.

Dr. Leith. Mr. Finlay had gone on record in a strong statement of the large tonnage in the Brotherton Mine. At the first hearing here in Bessemer that tonnage was reduced. The conclusion that I reached and the circumstances which led me to reach it were as follows; the tonnage that was put on by myself corresponded to my own judgment; in the light of Finlay's strong view of the situation, in the light of the history of the mine, in the light of the fact that nothing was known as to the extension below the twentieth level, in the light of the fact that the twentieth level had shown some extension over the level immediately above and it was not possible to say at that stage of development whether the ore would or would not be extended to a greater extent on the twenty-first level and the levels below and in the light of my associate having taken a strong stand in the matter, and in the light that I was unable to state positively that the ore would not go down, a compromise figure
59 was effected for the first hearing. In the spring of 1912, after the special hearing in Houghton, facts were presented by the company showing that in the meantime the next level had been opened up. I have been in the Brotherton Mine since 1911. The twenty-first level did not bear out the possible expectations of the twentieth which resulted in a reduction at the special hearing. The ore body diminished in area and was lower in grade on the level which had been opened up between these two hearings. The conditions as I found them in 1912 and the extent of the ore as I then estimated it to be in comparison with the estimate made by the company in 1911 which are now in evidence showed that the expectation of life based on ore reserve in the mine I think in both cases, was beyond the company's estimate, but nearer the company estimate in the second place than in the first place. This information is in regard to the Brotherton Mine entirely.

Mr. O'Neill: It is understood that all this goes in under the same objection.

The Court: Yes, you will have the benefit of an objection and exception to all this subsequent investigation.

Cross-examination.

By Mr. O'Neill:

I know James R. Finlay, have been acquainted with him since 1911. He is a consulting engineer, located in New York City. He has a lectureship at Harvard and goes there occasionally for an independent series of lectures. Mr. Finlay's standing as a consulting engineer is very high.

Q. Do you know of any one in the United States who is considered to have a better reputation in that respect.

Mr. Andrews: We object to that question. I don't think that a comparison between Mr. Finlay and other experts has anything to do with this case.

60 The Court: I think not. The objection is sustained.

Mr. O'Neill: I believe, Your Honor, it would be proper to show the standing of Mr. Finlay as consulting engineer as bearing upon the question of the good faith of the Board of State Tax Commissioners in relying upon the information secured by him.

Dr. Leith: Mr. Finlay's reputation among mining men as a consulting engineer and a mining engineer is a very good reputation indeed. It is a national one. I have been connected with the geological Department of the University of Wisconsin for the past ten years. I have been employed to examine mines for private interests with a view of purchasing by these private parties. The conditions as they appear from the developments at the time of an examination of a mine have a great deal to do in determining the selling price of the mine at the time. They are not all, however. The other things which I would take into consideration would be the history of the mine. I would, of course, emphasize the geological conditions, the relation to the district in which it occurs, and many other features of a similar kind. I would take into consideration the history of the mine itself and the history of the district in which it is situated, and the local geological features and the nature of the ore body as shown by the developments at the time of the examination. These factors would determine the value of a mine to a purchaser and would be taken into account by him. Subsequent developments might show that the mine was worth more money or less money. The selling price of the mine, the market value of the mine, at any particular time would depend upon the conditions that the developments show exist at that particular time. I would like to qualify that by saying that in large part mining men generally would take into consideration the other matters that I have mentioned, the history of the mine and the history of the district and the geological formation. The experience of the mine, the

61 facts known at the time would determine the value.

When I examined the Brotherton Mine in 1911 in company with Mr. Finlay, and afterwards when I consulted with Mr. Shields, a member of the Board of State Tax Commissioners, prior to the placing of valuation for assessment purposes of that property by that Board I used my best judgment, knowledge and informa-

tion. Using my best judgment, knowledge and information, I gave Mr. Shields and the Board of State Tax Commissioners the benefit of my conclusions. In the exercise of this judgment, I thought that some modification from Mr. Finlay's figures as to the amount of tonnage in this and other mines should be made. I modified Mr. Finlay's figures in regard to the Brotherton and I gave Mr. Shields and the Board of State Tax Commissioners the benefit of my judgment regarding such modification and they accepted it.

After 1911 I made an examination of the Sunday Lake Mine. My previous estimate required no modification. That is, the assessment which was placed upon that property by the Board of State Tax Commissioners acting upon my advice was correct so far as any information I was able to obtain by subsequent investigation. The same expectations which were used as a basis for estimating the life of the mine in the first place were held during the second examination. No modification was required. Of course, it cannot be told for many years whether it will be absolutely verified. The subsequent examination of the Sunday Lake Mine did not cause me to modify in any way the value of that mine which I had heretofore placed upon it. The subsequent examination did not change the assessment placed upon it by the Board of State Tax Commissioners in 1911.

Following the year 1911 and the assessment of that year, I had occasion to investigate and make an examination of the Mikado mine, operated by the Verona Mining Company in Wakefield
62 Township. I found that the conditions existing at that time did not change the estimate I had placed upon it for the purposes of the 1911 assessment. I don't remember the date in 1912 when I made this examination and the facts were brought out at the two hearings held in 1912; at some time during the year I was underground. I would say that the condition of the mine at that time was such as not to require any change in my opinion as to the amount of ore in the mine.

In the Brotherton Mine, at the time when Mr. Finlay and myself visited it in 1911, the developments in ore did not extend below the twentieth level. I believe the shaft was a little deeper, but tehre were no developments of ore below the twentieth level. The shaft was in the foot-wall and had been extended in the foot-wall all the way down from the surface. The shaft extended in the formation to the south of the ore body. I do not recall that there were any developments of any nature in ore or any developments disclosing ore below the twentieth level. Subsequent to 1911 and some time during 1912 I again visited the Brotherton Mine, and at that time developments had extended down to the twenty-first level. The twenty-first level was down vertically something less than one hundred feet, about eighty-five feet. I have said that the conditions as disclosed by the developments on the twenty-first level would indicate that there was not as extensive an ore body in the Brotherton Mine as indicated by the conditions as they existed at the twentieth level. This twenty-first level was opened up

during 1912, possibly it began earlier than that, but essentially it was done during the past year.

Prior to my employment by Mr. Finlay in the examination and appraisal of the iron mines in 1911 I have had an occasion to make a study of the geological formation of the Gogebic Range. In the first place, in connection with the work of the United States Geological Survey of the district, and in the second place, in con-
63 nection with examination of mines for private interests. I have reported on the physical conditions of mining property on the Gogebic Range for private individuals. As a member of the United States Geological Survey, I had occasion to make a particular study of the ore formation on this range while being associated with Dr. Van Hise, who is now the President of the University of Wisconsin. I think I first visited this range in 1896. I have been here occasionally since that time, almost every year. I have been in the Newport Mine and know something of its history. It is located on the same ore formation as the Brotherton, Sunday Lake and Mikado Mines. I know more or less of the history of the other iron mines of the Gogebic Range. Throughout the central part of the range particularly there has been to a great extent similarity in their history. I recall that at one time the ore body in the Newport Mine was considered to be practically exhausted. I also recall that subsequent developments disclosed a larger and better ore body than had been known before.

Q. You know, do you not Doctor, that the more extensive the developments were at the Newport Mine and the deeper they went and the more ore they took away the greater the amount of ore that was disclosed?

Mr. Belden: That is objected to as incompetent, irrelevant and immaterial. There isn't anything to show that the conditions in the Newport Mine are at all similar to the Brotherton, Sunday Lake or Mikado.

The Court: Take the answer.

Exception.

A. Yes.

Q. Do you know something of the history of the Palms Mine?

A. Yes.

Q. Do you know that at one time that mine was abandoned as worthless by its owners?

Mr. Belden: Objected to for the same reasons.
64 The Court: Take the answer.
Mr. Belden: Exception.

A. I have been told so.

Dr. Leith: The Palms Mine is on the same formation as the Sunday Lake, Brotherton and Mikado Mines. I have knowledge personally that developments have shown a very large ore body in the Palms Mine on the deeper levels at the present time. It was not a case of getting more ore the deeper they got; not progressively. There

was an interval when the ore did not increase in proportion to the work done, then suddenly they got a large quantity of ore. They passed through ground in which there was little or no ore before they encountered the valuable ore body which they now know of on that property.

Q. That is true more or less, in reference to the Anvil Mine, a property which is situated right next to the Palms Mine?

Mr. Belden: I object to that as incompetent, irrelevant and immaterial, all this testimony with reference to other mines.

The Court: You will have the benefit of an exception to this.

A. Yes. Actual mining has been done on the Gogebic Range for about thirty years.

When Mr Finlay and I visited the office of the Brotherton Mine we were shown maps and plats and blue-prints by the officials of these companies which purported to show the condition of the mine and the extent of the development. This office is the office of the Brotherton and the Sunday Lake Mining Company. The same person showed us the maps and blue-prints of both these companies. The Mikado maps were examined at the Mikado office. Mr. Smith, the engineer, was the one who showed us the maps. Mr. Smith was there, but I am not certain whether he was superintendent at
65 that time. There was some one else with him, but I do not recall just who it was.

When I stated that I modified somewhat the tonnage as determinded by Mr. Finlay, I mean that I reduced the tonnage. After making that reduction two flat cuts were made in the valuation of these properties, the Brotherton, Sunday Lake and the Mikado; the first of five per cent and the second of ten per cent. These cuts were made to cover any possible truth or justice that there might be in the claims made by the owners and operators of these mines as urged by them at the hearing of the Tax Commission held on October 2nd, 1911. These cuts were made after arguments had been made in the four counties, and there were various arguments brought up by the mining companies—labor conditions, price of ore, increased taxes—and to cover these various things these cuts were made just before the valuations were put on the books. They also urged that there was not as much ore in the mine as Mr. Finlay claimed. This claim was made before the State Board of Tax Commissioners and was one of the things it took into consideration. I cannot say whether at that time the mining company urged more than they are urging now.

The geological formation with reference to the iron ore deposits on the Gogebic Range shows that the ores occur in what is known as in an iron formation which is tilted up so that it dips to the north, with a footwall of quartzite and a hanging wall of slate, the thickness of the iron ore formation being in the neighborhood of eight hundred feet; there are dykes or sheets of diorite or greenstone which cut across the bed of the formation and intersect the footwall in such a way as to make pitching troughs or basins at the intersection of the dyke and footwall, and these seem to be favorable

places for the developing of the ore, although they do not entirely control the development of the ore bodies. The ore constitutes about 1½% of the area of the formation as it appears on the surface, and somewhere between 2 and 5% of the mass of the iron formation con-
considered in three dimensions. There are little pockets or
66 enrichments within this mass of formation, usually influenced by these intersections of the dyke and the quartzite, but not entirely so.

The extent of the ore formation in Gogebic County is east and west somewhere in the neighborhod of 60 miles and north and south about 1,000 feet. The ore formation is more or less broken up about four miles out of Wakefield, but extending from the Montreal River on the west it goes through Gogebic County very nearly to Lake Gogebic on the east. The ore formation extends in Gogebic County from the Montreal River, the western boundary of the County, to a point about three or four miles east of the Sunday Lake and Brotherton Mines. The depth of this ore formation has never been ascertained. The point to which this ore formation extends downward is unknown at the present time. I think the greatest depth to which ore has been followed in this formation is at the Newport Mine, where I presume it is at a depth of possibly 2,400 feet. As I recall it, the depth of the Brotherton Mine at the time I made my examination in 1911 was about 1,100 feet vertically. This is less than half the depth of the Newport. The Sunday Lake Mine is down about the same depth. The figure- are not far different for the Mikado Mine. I do not recall the exact figure for the Mikado, but it is in the neighborhood of 1,000 feet. At the time I made my second examination in 1912 of the Sunday Lake Mine, there had been developments since my previous examination in 1911. There had been extensions downwards from the twentieth level between these two examinations. The twentieth level had been extended, as I remember it, slightly. The principal development had been the opening up of the twenty-first level.

This ore formation which I have described, and on which these various mines I have mentioned are situated, is the same formation throughout the entire length from the Montreal River east to the point I have indicated three or four miles east of the Brotherton and Sunday Lake Mines. I have referred to dykes and to the fact that sometimes the formation of iron ore was somewhat controlled by dykes.

Q. Do you know the history of the Newport Mine with
67 reference to a certain dyke, that is as to whether or not the largest body of ore discovered in that mine was discovered under the dyke after passing through it?

Mr. Belden: That is subject to our objection. That is not dealing with general geological facts, but special facts with reference to the Newport Mine.

Mr. O'Neill: I think, Your Honor, in view of the fact that the witness has testified that in determining the value of a mine it is necessary to take into consideration the history of the ore formation in

which the mine is located, and the history of the district in which the mine is located, and other facts that could be disclosed and naturally would be disclosed by operations on that ore formation in that district, and in other places than in the exact mine in question, this testimony is competent. In other words, the value of a certain mine depends upon the history of the district, and upon the history of the ore formation.

The Court: The objection is over-ruled.

Mr. Belden: Exception.

The Court: This, of course, is cross-examination, Mr. Belden. He has made statements as to how he comes to his general conclusions. I think this is proper for cross-examination.

Mr. Belden: While I recognize it is cross-examination, yet it seems to me it has gone far beyond the ground of testing the knowledge of the witness. He has also brought out the fact that he was the consulting expert of the State; we didn't cover this field with our direct examination; they are now making him their witness on that point.

The Court: He now comes here as an expert for the plaintiff. He was the expert for the State.

Mr. Belden: He has qualified as a witness to show the fact with reference to the making of the assessment and not as an expert.

68 Dr. Leith:

A. Yes, the new located ore body is below an upper dyke upon which they formerly had ore, although it is in turn related to another dyke. There is a dyke in the Brotherton Mine which underlies the ore body. That dyke determines the pitch of the ore body. The pitch of the dyke on the twenty-first level is not quite the same as it was at the twentieth level. I cannot give it in degrees but it has become steeper in going down from the twentieth to the twenty-first. I mean it has turned down to a greater degree. I will indicate on the blackboard how the dyke runs on the twentieth and twenty-first level- of the Brotherton Mine. The Sunday Lake property is located to the east from the Brotherton. I have examined the ore in the Brotherton, Sunday Lake and Mikado Mines, but I have not sampled the ore, and I could not state whether it is of a high grade without sampling it.

Some exploration has been carried on beneath the dyke in the Brotherton Mine which I have before referred to. The exploration has not been very extensive. The exploratory work was in both the upper and lower workings of the mine. With reference to the history of the Gogebic Range and the mines on that range, ore is not ordinarily found at or near or beneath the dyke underlying the first body of ore where it intersects the footwall. I would not say that the ore that has been found underneath the dyke, which dyke has supported a body of ore, ore is usually found at quite a depth, that is below 1,000 feet. I would not say that it is found in the immediate vicinity of the first dyke. I would say that there would be ordinarily barren ground ranging from 20 feet up to two, three or four hundred feet between. This second body of ore is usually

found below the dyke at a point near where the dyke intersects the footwall.

(It was here admitted that both the second and ninth days of October, 1911, fell on Monday.)

I think Mr. Shields, the member of the Board of State Tax
69 Commissioners who conducted and held the meeting for the Board of State Tax Commissioners on October 2, 1911, and who fixed the valuations on these properties, is a mining man. He is president of a mining company in the Upper Peninsula of Michigan, but I do not know what his other connections are. I presume he is a man with some knowledge of mining in the Upper Peninsula and familiar with mine values.

I have some personal knowledge as to the management of the Sunday Lake and Brotherton Mines. So far as operation is concerned, both of those mines are under the same management and controlled by the same interests. So far as I know, the same situation is true of the Mikado Mine. I do not know the amount of property in acres owned by the Brotherton Iron Mining Company. I do not know the number of acres which constitute the Sunday Lake and Mikado Mines. My recollection is that those mines have been shipping for about twenty-five years. I have knowledge as to the amount of ore that has been shipped by the mines.

Q. State if you can approximately the amount of ore that has been shipped by the Sunday Lake Mine.

Mr. Belden: I object to that as incompetent, irrelevant and immaterial.

The Court: Take the answer.

Mr. Belden: Exception.

A. About 1,500,000 tons. I am speaking roughly from memory. The Brotherton Mine has shipped about 2,000,000 tons of ore and the Mikado has shipped something over 1,000,000 tons. I have no personal knowledge as to the assessment of those mines prior to 1911. The same system of determining the value of a mine would apply to the Brotherton, the Sunday Lake and the Mikado, including the factor of the actual results of the sale of the ore.

I was with the State Board of Tax Commissioners at the review held in Bessemer on October 2nd, 1911. I was present at
70 the reviews held by the Board in Iron, Dickinson and Marquette Counties. My time and the time of the Board during that week was entirely occupied by the work of those reviews. I have never been engaged in the steel industry and have no personal knowldge or information regarding that industry, except that of a casual onlooker.

Redirect examination.

By Mr. Belden:

Mr. Shields lives at Houghton, Michigan, and copper mines exclusively are found in the vicinity of that city. Mr. Shields is con-

nected with a copper mine and, as far as I know, he has never had any connection with iron mines.

The Newport Mine, which I have been asked about, is approximately about 23 or 24 miles from these three mines in Wakefield Township. The mines that I have been asked about in the vicinity of Bessemer are about seven or eight miles from the three mines in Wakefield Township. I find I was in error about the distance of the Newport Mine. It is something less than fifteen miles. The mines in Wakefield Township are in the same formation, although the formation is in a different condition. I mean by that that it was thrown north by what we call a fault which throws it out of its ordinary trend. In the second place, the slate which ordinarily overlies the formation, that is, lies in the north or hanging, is missing in the vicinity of the Sunday Lake, and the trap rocks which constitute these hills at the north of the valley here come down next to the formation at the Brotherton and have, to some extent, modified the formation which is not protected by this layer of slate. I should say that the ore formation in the vicinity of these Wakefield mines is approximately 500 feet in width. It is a great deal narrower than the formation to the west. The formation at the
71 Newport and these other properties is something like eight or nine hundred feet average width. There is a difference in degree between the Wakefield formation and the formation in the vicinity of Ironwood and Bessemer.

There is no indication at the Brotherton Mine that the ore deposits go below this dyke which I have spoken of although the ore does go beneath the slivers of the dyke. There are drifts or drill holes or workings which extend through that dyke at the Brotherton into the material beyond. These workings or drill holes have not shown any clear ore bodies beyond the dyke; they have shown mixed ore, but no ore that would be by itself merchantable.

Recross-examination.

By Mr. O'Neill:

In saying that a mixed ore has been found below the main dyke, I will have to define that term "mixed ore" to make myself clear. The formation found beneath that main dyke has little slivers and enrichments which can be separated out as ore. It shows that the ore formation goes below the dyke. In explaining what I meant by a "sliver," I mean that off the main dyke at this point (indicating) a small dyke goes out in this fashion (indicating). It seems to be a branch of the main dyke, a fragment. (Witness indicates a fragment or sliver of dyke on the blackboard.) Somewhere about the twentieth level there branches from the main dyke apparently a thin sliver of a dyke, which on the twentieth level is found to have ore both above and below it. When that dyke was first found on the twentieth level workings, it was supposed to be the main dyke. When ore was first found below that sliver it naturally led to the supposition that there was ore below the main dyke. As the work has proceeded it was found that this is merely a sliver and it has

not been proven that there is any ore going below the main
72 dyke. The ore formation extends below the main dyke and there are at least indications of ore. As I recall it, the sliver of dyke that I have referred to branched off from the main dyke above the twentieth level.

I don't believe any general statement can be made as to whether the grade of ore improves or the percentage of iron decreases as the ore extends downward. I don't believe it is a function of depth. I don't see that it would have any significance if a body of lean ore was encountered. It might indicate that this was the top or the bottom of a large deposit of ore.

I do not recall that there was more than one such sliver or fragment of the dyke that left the main dyke and cut across the ore body. It could not be finally determined whether or not what appeared to be the dyke turning toward the east below the twentieth level, was in fact the main dyke or was merely another sliver branching off. A sliver would have the same appearance as the main dyke and you could only determine which it was by going through it, although probably it could be determined by its position. The main dyke was in the neighborhood of fifteen or twenty feet thick *which* this fragment of dyke was two or three feet thick. A dyke is a sheetlike mass of igneous rock crystallized from molten magma which has flowed along a fissure and which hardens there. Geologically, these dykes were formed before the ore was deposited, although in certain parts of the district there is evidence developing that some of the ore was there prior to the dyke. The greater part was formed later than the dykes. I have referred to the difference in degree between the ore formation in the east end of the county and in the western end of the county. This is due to two causes; first, the fact that it has been altered by these traps going down against it and not being protected by the slate, and the formation itself has more layers of sand and quartz in it, breaking it up more.

There is slate in that vicinity on the other side of Black River.
73 As a matter of fact there are several slates. The large one that accompanies the formation cuts off west from the city of Wakefield. It is seven or eight miles from the Anvil Mine to the Brotherton and Sunday Lake. From the Mikado to the Anvil is about two or three miles.

BENJAMIN F. BURTLESS, recalled as a witness on the part of the plaintiff, testified as follows:

Redirect examination.

By Mr. Belden:

I have now the original complaint filed by the Sunday Lake Iron Company, the Brotherton Iron Mining Company and the Verona Mining Company with the Board of State Tax Commissioners on October 2, 1911.

Recross-examination.

By Mr. O'Neill:

A copy of the order, pursuant to which the review of October, 1911, was held, was published by the State Board as required by law. It was published in the Bessemer Herald and Free Press.

It was conceded by counsel for plaintiff that this order was duly published in accordance with law.

Mr. Burtless: Personal notice was also sent to the parties affected by the review, including the plaintiff in this case. The companies named in the order were the only property holders who were served with notice.

BENEDICT CROWELL, a witness called on behalf of the plaintiff, being first duly sworn, testified as follows:

Direct examination.

By Mr. Andrews:

I live in Cleveland and have been a mining engineer for about twenty years. I graduated from Yale University, and except for the first three or four years since that time, practiced my profession in various parts of the country, including practically all of the iron ore districts. I have been familiar with the Gogebic Range and particularly this vicinity near the Wakefield mines for ten or twelve years. I am acquainted with the geological and mineral formations here and with the important mines on the range, such as the Newport and Norrie mines. I have examined the Brotherton and Sunday Lake Mines a number of times. Yesterday was the last time I examined them, and I was there also last fall. I have been in these mines and have had an opportunity to observe the surrounding conditions and all things that would give an indication as to the ore.

The Brotherton Mine adjoins the Sunday Lake Mine on the west. The two mines are working in the same ore body and the levels are kept about the same. Roughly speaking, a distance of 2,000 feet horizontally would take in the workings of the two properties.

Q. From the indications found in the Brotherton, would you be able to make any deductions or would it have any direct bearing upon the Sunday Lake?

Mr. O'Neill: I object to that question as incompetent, irrelevant and immaterial. It refers to no particular time. It is not confined to the time when this assessment complained of was made.

Objection over-ruled and exception given defendant.

A. Yes.

This was so from a geological standpoint and from a mining standpoint in the year 1911.

Mr. Andrews: I ask to have this map marked Exhibit 7. (Which said map was then marked Exhibit 7.)

75 Mr. Crowell: I have examined the maps of the Brotherton Mine. I have checked up this map which is marked Exhibit 7 and it is a correct map of the Brotherton Mine and shows its connection with the Sunday Lake Mine and the line between them. The Sunday Lake Mine lies to the right.

The ore in sight at this time is colored in red on the map, and the rock is colored green, and the ore that has been taken out is otherwise indicated. This yellow line is the dyke which underlies the ore. The little piece of yellow is what has been referred to as the sliver of the dyke. The dyke turns at this point (indicating), right here (indicating) you can tell, but no lower. There is no means of knowing whether or not it flattens out.

The only indication found in the Brotherton of a dyke is the decrease in the grade of the ore as you approach it, and there has been such a decrease in this section of the mine. The dyke has been pierced by drifts or drill holes as shown here on the map. I am personally familiar with the place where it has been pierced at all points, except at the upper one. There is no merchantable ore on the under side of the dyke.

It was here agreed by counsel and the Court that all this testimony was taken subject to the objection last made by counsel for defendant.

Mr. Crowell: The ore body on the Brotherton Mine has run out; it is out. They are finding mostly non-Bessemer ore there. The things indicating that the ore is approaching the dyke are that the ore from this nineteenth level down has shown an increasing amount of phosphorous. What little ore there is down here (indicating) is practically non-Bessemer; I have estimated that there is 75% of non-Bessemer ore. As to the volume, of course this map shows pretty well how the volume has decreased. On the nineteenth level there was practically ore to the line; on the twentieth
76 level we also had ore practically over to this line but a little broken here (indicating near the Sunday Lake line). On the twenty-first level the ore extends only about 100 feet and there is no ore then until you get to the line. The ore here is thin. It is only the width of the drift, while here above (indicating) we had fifty or sixty feet of ore at about the same point, so that the ore on this level is practically gone. The map to which I refer is a map of the Brotherton Mine but containing also part of the Sunday Lake Mine. If it were shown by drilling or otherwise that this dyke shortly under the twenty-first level turned horizontally towards the east, it would indicate a cutting off of the ore at the Sunday Lake Mine. I haven't much doubt but that the dyke eventually comes to the Sunday Lake Mine. It has come a long distance towards it and it is pretty close to the line. Just what angle it will assume when it comes over there I can't say. There is no merchantable ore back of this dyke that I have ever seen and I have examined it at all these points.

I have examined this map which you now show me and it is a

map of the Sunday Lake Mine made on a slightly smaller scale than Exhibit 7.

Mr. Andrews: I will ask to have this map marked Exhibit 8. (Which said map was so marked.)

Mr. Crowell: I have examined the workings of the Sunday Lake Mine and find that as the levels go downward we are getting more non-Bessemer ore. (It was here understood between the Court and Counsel that the defendant should have the benefit of an objection and exception to all evidence bearing upon conditions or developments subsequent to the assessment and review of 1911.) In other words, the phosphorous would be increasing in the ore, necessarily making more of it non-Bessemer ore. Until the year 1910 there was no non-Bessemer produced in this mine. Along about 1910, however, the amount of phosphorous began to increase and
77 in subsequent years it has increased so rapidly that they have mined a non-Bessemer grade. During the years 1910, 1911 and 1912, the non-Bessemer ore amounted to about 10% of the total. In the year 1913 there has been up to date hoisted 26,389 tons of Bessemer ore and 11,903 of non-Bessemer ore. In other words, the percentage at present seems to be about one ton in three of non-Bessemer instead of one ton in ten. There is a general increase in the phosphorus contained in this mine as you go down.

There is no indication in the way of drilling or drifts or shaft work to indicate how far the ore would go below the bottom level. In 1911 the bottom level was one level higher than at present. There was nothing below that.

Q. What would be reasonable, Mr. Crowell, and what was reasonable and at all safe to estimate as to the ore in that mine in 1911?

Objected to by defendant as leading, suggestive and improper in form, and for the further reason that it does not appear that the opinion of the witness is asked to be drawn from knowledge or information that he had in 1911.

Objection over-ruled and exception noted.

A. The ore below the bottom level of course has always been in doubt. The question of the tonnage in this mine, and all other mines, is easily figured above the bottom level but how far this ore will run below the bottom level, or any level, until you have opened it is, of course, problematical. In this Sunday Lake Mine my opinion is that it would be unsafe to figure more than one level ahead of what you could see, partly on account of the conditions in the Brotherton Mine, that is, that is a known element of danger and there are always elements which we do not know; the amount of ore which has been kept in reserve has run about 200,000 tons in this mine and a level would amount to between 150,000 and 200,000 tons additional, so that my opinion of the ore which it is safe to figure on, that
78 is the ore in sight, I would put it at about 200,000 tons and I would add to that another level, 200,000 tons in addition, as ore which we can fairly safely expect; beyond that point I would be afraid to venture on any guess.

I know the history of the Sunday Lake Mine as to rock intrusions. The maps show the irregularities and horses of rock or rock intrusions, which have come in making it more or less irregular all through. This indicates the uncertainty as to the life of the mine. The dyke referred to in the Brotherton Mine is undoubtedly making for the Sunday Lake Mine. There is no question in my mind, as it crosses the boundary, it will bottom the ore in the Sunday Lake Mine. As to what point it will be, this is uncertain, but it has taken a sudden turn here and it is hard to tell where it will take another sudden turn. If you were able to show by drilling that it has turned sharply to the eastward, it would mean a sudden ending of the mine. If it flattened out it might cut it out between two levels.

The change in the chemical quality of the ore indicates to my mind that we are approaching the dyke. This change is one of the usual and customary features you would expect to find in approaching the dyke.

In mining and producing ore and putting it on the stock-pile, you must have labor of course and vast capital and an executive organization, without which no mine can exist; the organization which handles a mine is as important as it is in any other line of business and perhaps more so. You cannot run a mine without a thoroughly experienced organization to handle it and run it properly, and, you must, of course, be able to get enough labor and labor which is skilled or trained in that business. I think the labor around here is very good. The skill of the operator and of the organization have the effect of achieving success or failure. I can hardly imagine a mine that would be proof against bad management.

79 Mr. Andrews: What is there in the way of improvements or methods in savings that are and have been adopted, making one mine differ from a neighboring mine in the way of savings and in the way of increasing the profit of the business?

Mr. Driscoll: Objected to as leading and suggestive.

Mr. Andrews: I want to say to the Court in this connection that Your Honor will observe that the assessment which has been put on has been put upon the profits of the mine. I am trying to show, and desire to show, that the profits of the mine are made up of ore as only one element and the balance of it is the human skill of the people who mine and produce the ore which has nothing to do whatever with the ore in the ground.

The Court: You may proceed.
Mr. Driscoll: Exception.

A. Of course, the equipment of a mine, or a change in the equipment, might make an unprofitable mine profitable. A mine in which the machinery is kept up to its highest point of efficiency will produce ore cheaper than a mine which has a lot of junk; the margin of profit is so close that bad equipment might throw a mine into the discard quite as readily as these other items. Probably the

most important of these points is the question of labor. I have seen a number of mines in other parts of the United States try to start up with the native labor and they couldn't get any ore out at all, and they have then found that they could afford to go sometimes to Lake Superior for labor and, although they had to pay a much better price for the skilled labor, they can produce ore cheaper than with the inefficient labor. That is the effect of labor.

Some of the neighboring mines use different motive power, some use electricity and some use steam. There is undoubtedly a difference in the cost of electricity produced by water power. I would assume that anyone who would spend enough money to put in a hydro-electric plant would show a profit in doing so. There
80 is a decided difference between hand drilling and drilling by the use of air and it would make a large difference in the profits on the stockpile. These things are entirely separate from the ore in the ground.

The ore from the Sunday Lake Mine is marketed in Cleveland, that is, the ore is sold by a selling firm whose headquarters are in Cleveland. The ore may be sold anywhere in Ohio, Pennsylvania, New York or Illinois. I should say the ore was sold out of the State of Michigan entirely. I have no knowledge of any being sold in this state. I do not know where the head office of the Sunday Lake Iron Company is.

I am connected with business which has closely to do with the ore as it comes from the upper lakes. We sample and analyze these ores to determine the grade of them down at the lower lakes. The grade determines the price. I have sampled the Sunday Lake ore as it comes down in boats. We catch it as it is unloaded at lower lake ports. So far as I know all of this ore is shipped into the states I have mentioned. The greater bulk of it at any rate. The business of selling and marketing the ore is entirely separate from the business of mining the ore. It requires very great skill and great organization and experience, not to speak of money to successfully handle and market ore. I have watched this business with admiration for a great many years. I have never personally been employed in that business but in determining the value of the ore we have to watch it pretty closely and come in contact with the organizations which take the ore from the mine and carry it from there on through to the consumer. It is a very important factor in the success of a mine to have a connection with a successful agency to handle the ore, getting the ore to market and disposing of it.

There is a difference in the bare shipping of the ore between the handling of different ore dealing concerns. A mine has got to operate with some regularity in order to keep the cost reasonable. To do that you have got to get the ore away from the mine.
81 It is shipped from the mine every day to the dock. The mine would have only a certain allotment at the dock. The dock couldn't afford to let them fill all their pockets with ore from one mine so you have to keep it moving from the dock with a certain amount of regularity; that is, you must have vessels there

at certain times and take certain sized cargoes and get the ore away. At the lower lakes it must be unloaded with regularity and the ore has got to go forward to the consumer with some degree of regularity. If there is a hitch in any one of these operations it means a stoppage at the mine and the mine must, of course, either shut down or stockpile its ore, either of which would increase the cost of mining.

If the ore is stockpiled, it means that it must be handled again which would, of course, increase the cost. There are wide fluctuations in the market as to the demand for ore. The market, as represented by the amount of ore shipped each year, practically represents the demand that year, and the demand, of course means the operation of the mine. When the demand is less, some of the mines, of course, have to shut down. Because a mine is physically able to hoist 500,000 tons of ore it does not mean that you could dispose of it. If you could not dispose of it you would have to shut down the mine. In estimating the life of a mine it would not be safe to confine it to the physical amount that could be taken out and hoisted each year unless it could be shown that you had a demand sufficient to absorb your product, and until you can show that you have that demand or have facilities or plants which will unfailingly take that ore, you have no right to make that assumption.

Cross-examination.

By Mr. Driscoll:

82 My regular business is that of a mining engineer. I am not regularly employed by the same concern, but I work for anybody who employs me. I reside in Cleveland. I reside there continuously as much as I can. I was last at Wakefield yesterday, but the last time before this particular trip when I visited there was last fall. In a rough way I should say it was in September. At that time I was there two or three days. I came up to look at the two mines, the Brotherton and the Mikado at the request of Pickands, Mather & Company. I do not know whether they are interested in the Brotherton and Mikado Mines, but I know they handle the ore. I should say they have handled the ore from those mines for five or six years. They also handle the ore of the Sunday Lake Mine. I should say that they have done this for the past five or six years. Pickands, Mather & Company take part in the management of those mines. It would be my opinion that those mines are operated under the same management—practically the same management; I am not certain as to how far that would go but from doing business with them that would be my conclusion. I have been at Wakefield prior to this trip last fall. I should say I have been there probably once or twice a year for the past nine or ten years. My visits have been to the Gogebic Range. I should say I have been at Wakefield within a year of last September, but just when it was I do not know. I could not say how long I stayed at that time. The occasion of my visit was probably something in connection with the

quality of the ore. I was there about a year before that looking into some questions as to the quality of the ore and the determination of the quality. I am not sure I wasn't there between those trips. I could not say. I cannot recall what I was doing there. One trip before last September was made there with reference to the quality of the ore. Undoubtedly every time I have been there it had something to do with the mine, but I am unable to designate just what I did on each trip. I can't even say when I made the trips. I did come at the request of Pickands, Mather &
83 Company. I have made these trips to Wakefield for this company during the past two or three years. I have been there before that time for other people before Pickands, Mather & Company had anything to do with those mines.

I was in the Sunday Lake Mine first I should say in 1898 or 1899 and I visited the Brotherton about the same time. I cannot state approximately the number of times I have been in those mines since 1898 without making a wild guess at it. I should say five times would be somewhere around the number; it may be more. I will say at least five times. The first of these trips was in 1898 or thereabouts. I had other business with reference to those mines than the ascertainment of the quality of the ore. I have estimated the tonnage of ore in sight and have looked at the general mining conditions at times and the general geological conditions. In the Brotherton and Sunday Lake Mines I have made estimates of those things, a couple of times during the past five years. These visits I should say were in 1912 and yesterday. These are the only times that I have worked out the estimates I have made. I have observed the ore and taken measurements but I never had any occasion except on those two times to work out the tonnage. I never worked out the tonnage from the estimates before. We make the measurements and then it is quite a piece of work to sit down and work out the tonnage. Before the fall of 1912 I first made measurements in 1898 or 1899. I do not suppose that I have been in the mines without making measurements. I could not say what was the last time prior to the fall of 1912 that I did make measurements. I presume it was sometime in 1912 or 1911. I made measurements in 1911 if I was underground. I do not remember exactly whether I was or not. I do not remember having made measurements in 1910. I do not remember about 1909. I could not say whether I was there in 1909. I do not know whether I made measurements in 1908. I recall that I did make measurements in 1911.
84 I do not know whether it was in the spring or in the fall.

I spend a great deal of time going from mine to mine taking measurements and at other work. I take a trip taking in three or four mines and sometimes more and I haven't the slightest idea when I was at these mines without looking the matter up. I have nothing but my recent note-book to refer to. It was not my intention to state that I spend practically all my time in Cleveland. If you look up the record I think you will see that I said I spent all the time at home that I could. I do not travel any more than I have to. Of recent years I possibly spend half my time away from

home. Previous to that I spent almost all of my time away. I should say the last three years I have been out of Cleveland about half the time. Previous to that I should say I have been out of Cleveland a much larger proportion of the time.

I have regular clients besides Pickands, Mather & Company. It would be hard for me to say just how many I have but I think I have worked at times for all of the operating companies in Cleveland and Chicago. Just how many there are I would have to think. I do not think the success of my business depends upon the continuation of my employment by such people as Pickands, Mather & Company. I do not think it would affect it much whether I worked for one or another. It is true that I earn my living by working for mining companies. In 1912 I came up to look at the Brotherton and Sunday Lake Mines for Pickands, Mather & Company, but after I got through I went to the Mikado for them. It is my recollection that I went through the three mines. It is my recollection that we went through the Mikado in about an hour, and I think I was at the others for a couple of days. I was there about three days at that time. I could not say how long a time I spent in the Brotherton or in the Sunday Lake. I have no idea; I should say a few hours in each underground. I spent considerable time on the surface
85 and a few hours underground in each mine. In the Sunday Lake Mine I visited the two bottom levels, the twentieth and the twenty-first. If I remember rightly in 1912 there was no connection between the Brotherton and the Sunday Lake on the twenty-first level, but it had been opened up to some extent. I should say the area of the openings on the twenty-first level of the Sunday Lake Mine when I was there in 1912 was about 1,500 feet. I think this was in September, 1912. The place on the twenty-first level which this 1,500 foot area covered is approximately shown on the map. It was opened up at that time and the extent shown on the map marked Exhibit 8. The level itself is about the same now as it was then but it has had considerable ore taken out above. This ore was taken out both east and west from the shaft. It was opened up east of the shaft at that time about 500 feet and on the west side from the shaft about 1,000 feet. Just one main level or drift ran to that extent each way. I did not go down any farther than that but I think they were sinking this shaft beyond the twenty-first level at that time. I cannot tell how much of the area of the then bottom level of the Brotherton was opened up in 1912 without looking at the map or my notes; it is about the same thing. I should say this map was drawn just about that time. The work on the twenty-first level in the Brotherton had extended east just about to the line indicated here marked "Boundary Line." By referring to my notebook I find I was there September 12, 1912, for one day; that was one of the days I was there. I have a sketch of the Brotherton Mine which is dated September 13, 1912. I also find another note made at the Mikado Mine dated September 12, 1912. I was also there in Wakefield on September 14th. I was in Wakefield on September 12th, 13th and 14th, 1912. I may have been there a day or two before or after that time. Those are the notes I happen to find in

my note-book. I know I was here those three days. I may have been there a day or two before or a day or two after. During
86 my visit in 1912 I was estimating the tonnage and I was also figuring on the quality of the ore. I was observing whatever there was to see. I was obtaining this information to give it to Pickands, Mather & Company. They have to keep very close track of these things in their operations. They have to figure very accurately how much ore they are going to take out at the beginning of each year and what the quality is to be. I think I was getting that information for use in a tax hearing. I do not know whether I was aware of this fact or not. As I recall it, I measured the tonnage for that purpose. I do not remember whether I did any other work or not. I never made any report to them of the tonnage but I think I did make a report on the changing quality of the ore in the form of a letter. I do not think that I made any formal report as to the tonnage. Underground in ascertaining the quality of the ore I sampled it to determine the grade. I took samples of the ore. I took them down with me to my laboratory in Cleveland, and the samples were analyzed. From that, I figured the grade of the ore. Of course, I was furnished with the work which had been done at the mine and the analyses which I made checked out the work which was done at the mine, and from that I figured out the proportion of the Bessemer and non-Bessemer ore. I could not have made my analyses in Cleveland just the same if somebody had sent the samples down to me. The process of taking the samples is so important that it is much better to take your own samples. If you were to go in there you would take them in a different way from what I would. Unless we went together and saw how each other had done it we would get very little information. For all practical mining purposes samples are taken daily by regular employes and it was those samples that I checked up with my samples. My trip from Cleveland was made partly for this purpose. I made every investigation that occurred to me with a view of getting at the condition of the mine. The
87 samples were merely incidental. I do not remember whether the investigation I made at that time was the same as at other times when I was at this mine. My report in regard to the difference in the grade of the ore contained quite a discussion and description of the way the ore was changing and the amount of non-Bessemer. I believe I made some estimates of the amount of non-Bessemer ore at that time. If I had seen anything else there that was unusual or startling I would have undoubtedly noted it, but I do not know whether I would have reported it or not. I have a note-book very nearly full of what I noted at that time. I have not gone over it recently to see what I did note but will do so if you want me to do it. In connection with the grade of the ore I think there were no other particular matters which I considered as unusual. In connection with the quantity of the ore, of course there had been quite a change since I was there before. As I recollect I did not write any report on that. I undoubtedly told some member of the firm about it. If I wrote a report on the quantity of the ore I would recall it at this time.

The twenty-first level shown on the map extends through the dyke at the present time and the place which I indicate on the map below and to the right or east of the end of the main dyke which is not filled in has been left blank. This map is dated July, 1912, and work has been done since that date. Exhibit 7, to which I have been just referring was not made by me or under my direction. On the occasion of my visit in September, 1912, at the Brotherton Mine I will indicate on the map the portion of the mine which I visited. I went down the main staft, called the Clark shaft. Above the eighteenth level is practically all caved in. I have visited practically all the workings below that point (referring to 18th level) and there were a great many. When I say all the workings, I do not mean that I went over every foot of every sub-level but I think I was in every sub-level. I do not mean that I was in every raise either, but I was in all the main levels and went through the
88 different important points in the sub-levels. This is not the only map kept of the underground workings of the Brotherton Mine. There are detailed maps showing the plan of each level and there are also cross-sections. I have a map which I have checked up showing below the eighteenth level, and I can readily ascertain if it is the same as this. I have been in the mine below the eighteenth level to measure it and make an examination before September, 1912. I have been in the mine to make such an examination below the eighteenth level certainly some time previous in 1912 and 1911. When you limit me to the eighteenth level I cannot say for sure because I have known this mine since 1898 or 1899 and have watched it fairly close. I do not remember making the statement that I did not make an examination of the Brotherton Mine except yesterday and last September during the past five years. As I recollect it, you asked me then as to whether I had estimated the tonnage. I have kept in pretty close touch with it and have made measurements. I cannot state when I made those measurements previous to 1911 as to the date or years. No accurate map can be made without taking actual measurements. I cannot remember the dimensions and even if I did take measurements when I was in there I could not remember them. I have accurate information of that mine below the eighteenth level and I have measured it. I will give you a number of measurements if you want them. (Referring to book.) I have here a practically complete sketch of the bottom of that mine made in 1912. Also a good many pages filled with measurements and estimates of different kinds. This sketch was made September 13, 1912. On that day I made actual measurements of that portion of the mine from the eighteenth level down, including the nineteenth, twentieth and twenty-first levels. I do not remember who was with me when I made those measurements but it was probably someone from the mine. It probably took several hours to make them. I have
89 never calculated the total area of the openings which I measured at that time. I did not measure up any open spaces. I measured the ore. The mine was practically worked out down to about this point, that is, between the eighteenth and nineteenth

level: There would be a varying line of the different sub-levels. I have a sketch in my note-book dated September 13, 1912, and this was the date on which I made measurements in the mine below the eighteenth level, including the eighteenth, nineteenth, twentieth and twenty-first levels. I cannot tell you how much ore had been mined out below the eighteenth level on September 13, 1912. I was not interested in the ore that had been mined out. I was measuring the ore that was left. I can tell you how much ore was left. My sketch would not show the places out of which ore has been taken accurately enough to make estimates. For the purpose of estimating we use maps of all these levels and the notations are made on these maps. My sketch is not equivalent to those maps, but I have the maps right here which I carried. The maps were made by others but the measurements were checked up by me. We checked up by taking the measurement from one point to another. We then take the map and apply that measurement to the scale and find out whether the map is right or wrong. In order to check up a map it is necessary to personally make measurements underground. The map is made before and we check it from point to point to see whether it is correct or not. The maps which I refer to were made prior to September 13, 1912. I have checked up maps made subsequent to them from measurements I made yesterday. I was over there yesterday.

I should say that they usually mark a dyke on a mining map in yellow or brown and the ore is marked in red. Theoretically the maps or blueprints of a mine are posted up from day to day, but as a matter of fact they seldom keep them up to date. It is very unusual to find maps kept up to date. Usually, they are within
90 a month. I would say that as a general proposition it is generally customary to check them up every few days; that is the detailed maps. I do not know why Exhibit 7 has not been brought up to date at the point I have indicated where it is not brought up to date at the bottom of the dyke marked Number 1 Dyke.

I was not present at the hearing before the Tax Commission in 1912. I did not take part in the preparation of the report introduced in evidence in this case of the Sunday Lake Iron Company, marked Exhibit 5. I have never even seen it.

Redirect examination.

By Mr. Andrews:

I am acquainted with the Newport Mine and the mines next to it. It has been said here that they drilled to lower depths in the Newport Mine after an earlier body of ore had been exhausted and found ore. They did not drill but sunk a shaft after they had gone through the ore body which was underlaid by a dyke. They started sinking a shaft and they went down a good many hundred feet through barren material. During that time there were a number of times when they came near giving the matter up. They spent a good deal of money but finally struck the ore body which has

made the Newport Mine. The striking of that ore body was practically a foregone conclusion when they started; that is, either they would have to strike that ore body or else the ore body of the Norrie Mine would have to play out. The dykes in this section slope down eastward. This is true near the Newport Mine. The dykes carrying this ore body start to the west in the Norrie ground and they gradually pitch into the Newport ground. The definite purpose of this sinking described at the Newport Mine was to catch at a lower level the ore body from the Norrie which they knew was pitching in that direction. There is not any other dyke from the westward that comes down toward the Sunday Lake and
91 Brotherton Mines or any ore body known to the westward that comes toward it at a lower level. The ground to the west of the Brotherton has been drilled and explored to find out whether there is ore there. There are indications of considerable work having been done there, including old shafts and old workings. I do not know of any ore immediately to the west of the Brotherton in any large quantity. In the mines immediately adjoining on the west operations have never been successful and beyond that point there is a fault to the west of the Brotherton and Sunday Lake which cuts it off altogether. I would say that the conditions at and near the Sunday Lake and Brotherton are entirely different from the conditions at the Newport and Norrie Mines. I mean with reference to further sinking. Over at the Newport when they got through their body which was bottomed by a dyke pitching to the east they had definite information from the workings to the west in the Norrie and East Norrie Mines. They knew perfectly well that the ore body was pitching into their ground and if they went deep enough they must catch that ore body or the ore body must be played out in the meantime. That was the gamble that they took in sinking that shaft. If you would sink a shaft in the Sunday Lake and Brotherton down below this dyke bottoming the ore body you have no indications of any ore body pitching into that ground because this land to the west has been explored for some distance and nothing ever found there of any consequence, although a good deal of money has been spent, so it seems to me a useless proposition to sink any deeper unless you want to gamble pretty strongly. There are some other differences in regard to the geological formation between the Sunday Lake and Brotherton and the conditions found at the Norrie and Newport. The Newport and Norrie are practically in the center of the belt or ore formation. It is at its maximum there, while these mines are at the extreme eastern end and the
92 conditions are somewhat different; the formation is thinner. The hanging wall is the same in both places. There are some slight differences, but nothing very great in regard to the hanging wall and the footwall.

Recross-examination.

By Mr. Driscoll:

It is not a fact that in the Sunday Lake Mine the deeper down it is sunk the more valuable the ore becomes and the more extensive

it becomes. The situation is quite the reverse. It is not true that there are better indications there now both in quality, and quantity of ore than there were in 1911. In 1911 there was less phosphorous in the ore they were taking out and there was a greater extent of ore. In other words, while in the old days this ore body was bounded by the dyke coming down below it, now it is bounded by this rock shown here on the map.

G. H. BEAUMONT, a witness on behalf of the plaintiff, being first duly sworn, testified as follows:

Direct examination.

By Mr. Andrews:

My home is in Cleveland, Ohio, and I have lived there all my life. I am engaged in the business of selling iron ore. I have been engaged in that business about 22 or 23 years. During that time and down to the present, I have been connected with the business of dealing in and marketing iron ore to the general market and trade. I am familiar with the ore coming from the Brotherton, Sunday Lake and Mikado Mines. I have sold the ore from these mines. The main office of the Sunday Lake Iron Company is in Cleveland, Ohio.

93 The main office of the Brotherton and Mikado Mines is as far I know also in Cleveland. The main office of the Brotherton and the Verona Mining Company has been in Cleveland all this time. I am familiar with the firm of Pickands, Mather & Company. I am an employee of that firm. The offices of the Sunday Lake and Brotherton and Verona Companies are with Pickands, Mather & Company.

Q. State to the jury where with reference to the State of Michigan all the ore from these three mines is sold; is it sold in Michigan or outside of Michigan?

Mr. O'Neill: That is objected to as incompetent, irrelevant and immaterial.

A. Outside of Michigan.

Mr. Andrews: Do you object to my at this time bringing in and speaking of the sales of the ores from the Brotherton and the Verona? I will say to you that the testimony will be in the main impersonal; that is, it relates to the method of selling the ore rather than to any particular mine.

Mr. Driscoll: We want the same objection as to all of them.

Mr. Andrews: Do you object to my covering the sales of the ores from the three mines?

Mr. Belden: Simply to show it is the same method.

Mr. Driscoll: My objection will not cover that.

The Court: Yes, you will have the benefit of an objection and exception.

A. The ore from these mines has been sold in the states of Illi-

nois, Indiana, Ohio, West Virginia, Pennsylvania, New York and Canada.

Q. Now, with reference to the handling and dealing in ore, will you describe from its beginning, that is, commencing at the mine and running through to the ultimate consumers and the market what is done in the way of dealing in ore; that is, from the sales end of it?

Mr. O'Neill: That is objected to as incompetent, irrelevant and immaterial; it has no bearing upon the issue involved in this
94 case.

The Court: Take the answer.

Mr. O'Neill: Exception.

A. Well, in the first place we have to find a market for it. The ore is sold as a usual thing betwen the first of December and the first of April. Delivery begins with the opening of navigation about the first of May following and running through to about the first of May of the following year. After getting contracts signed for the delivery and handling of this ore, the agents begin to pick up the ore as it is delivered on board cars at the mine. This is where the sales end of it begins. The people who sell the ore make the contract for the tonnage or vessel freight. The same people make the contracts for the unloading and the delivery at the other end. The same people look after the process and course of the shipping, beginning with the mine and carrying it down through the various channels that I have mentioned. The firm with which I am employed has charge of that process. In contracting for the water freight this subject needs very close attention because it frequently happens that a mine is not able to produce or move all that they expected they would, and if so, they would be long on tonnage. Those charters are made for a definite tonnage during the season. If on the other hand, the mine produces more, they would be short on tonnage and it might cost a higher rate or freight to deliver the ore. The freight rates affect the profits of the mines very decidedly. It is very essential to keep the ore moving. It frequently happens that a mine will get a tonnage of ore in dock and wire the agent stating that the railroad will refuse to give the mine cars unless that tonnage is removed and generally the railroad gives a certain time within which to remove it. It frequently is not more than 24 hours. If the agent fails to take that ore out of the dock within that time the railroad shuts off the cars for the mine and the mine stops shipping. There is a difference in expense if the
95 mine is compelled to put the ore on stockpiles during the shipping season. I have been in touch with mines by telegraph or otherwise so that I am familiar with those things.

Q. Describe what has happened so that the jury can understand.

Mr. O'Neill: All this testimony is objected to.

The Court: You will have the benefit of an exception to this.

A. Why, they have to stockpile the ore. It means a double handling. This adds to the expense and the extent of the cost of that handling. It frequently happens that you cannot handle it promptly.

Sometimes you can't get a steam shovel to handle it, so as to complete your contracts before the close of navigation.

It is rather a difficult question to describe the marketing of ore and the dealing in it with the trade and showing the steps required which affect the profits of the owner of the mine. This ore almost always varies in quality and it is necessary to find a purchaser who wants the particular quality of ore from the particular mine. In order to induce the purchaser to buy the ore it is often necessary, in fact almost always necessary, to figure over the mixtures. I mean by that various qualities have to be blended. It is necessary to have knowledge of the quality of the iron, the specification- that the purchaser is required to meet in the manufacture of his pig iron. The ore mixtures must be compounded for the blast furnances to meet those specifications. The sales agent attends to that.

I can best illustrate by a concrete case what the sales agent is required to do when shipments come in when the ore is changed in quality. Our company sold the Walton and Earl ores to two companies last December. Since that time their conditions have changed so that it would be impossible for them to use those ores this year. They were obliged to change the kind of iron that they expect to make between May 1st, 1913, and May 1st, 1914. Market
96 conditions of pig iron were such that they were not able to sell that particular grade at a profit. Therefore, they were obliged to sell other grades and these particular ones were not suitable for the manufacture of other grades. A mine cannot always insist on delivery of the ore even if they have a contract. The payments are so large that many companies could not carry it unless they can convert the ore into a merchantable profit. Therefore, to make that deal the agent must try to trade these ores for some other ores that will suit the changing condition of the original purchaser of these ores. We have met those things in the Sunday Lake, Brotherton and Mikado ores within the last few days in regard to the Earl and Walton grades that I have mentioned. In order to market the ore, the selling agency has to make trades wherever it is possible in order to enable the mine to deliver the ore; otherwise, the mine would have to stockpile it. All these things enter into and affect the profits made in dealing in the ore in other states very decidedly. The agent must also look after the collections and must watch the credits. These elements affect business conditions at times, that is, the ore must be handled with reference to the financial standing of the purchaser. This may happen at any time during the season. If the matter of credits and collections should be neglected or the selling agent should fail in the performance of that part of the business, it would be a serious loss to the mine. It might mean the absolute failure of the mining company. The business of dealing in and selling and delivering ore is entirely separate and different from the business of mining and stockpiling the ore ready for shipment. The profits of a company owning a mine depend very largely upon the manner in which the ore is dealt in, handled or disposed of.

I have been acquainted with the sale and marketing of these

ores from these three mines, and mines generally, during the last fifteen years. Market conditions fix the limit of shipments. This is shown very clearly in the falling off in the total shipments
97 from the Lake Superior region in the years of depression. Market demand is not uniform but it changes from year to year. As an illustration, last year there was shipped from the Lake Superior region somewhere in the neighborhood of 42,000,000 or 43,000,000 tons. Not very many years ago that total was reduced to somewhere in the neighborhood of 26,000,000 or 28,000,000 tons. During the last fifteen years I have known a fluctuation in price from $1.80 or $1.90 up to $5 or $5.25 per ton for Bessemer ore. There was a difference between 1912 and 1910. In 1910 ore averaging 55 per cent. natural iron and .045 phosphorous was selling at $5 on board vessel at Lake Erie ports. In 1912 that same ore sold for $3.75. Non-Bessemer ore on the basis of 51.50 natural iron sold at $4.20 and in 1912 it sold for $3. There was a difference of over $1 a ton in both Bessemer and non-Bessemer. I have drawn up the prices for comparison in seven year periods and fourteen year periods. The seven year period prior to 1911 showed a price on standard Bessemer ore of $4.30. For the seven years previous to 1905 it showed $3.59, and taking the fourteen years together it shows approximately $3.95. In the seven years immediately before 1911 ending with 1910 the price was the highest seven years of that fifteen year period.

Q. And would that be a fair average in your judgment to determine the market conditions that you could depend on in a period of fifteen years?

A. No, sir.

Mr. O'Neill: That is objected to as incompetent, irrelevant and immaterial; no proper foundation having been laid and it not being shown that the witness is competent to testify.

The Court: The answer may stand.

Mr. O'Neill: Exception.

Mr. Beaumont: I should be very much surprised if during
98 the period of fifteen years the price of ore could reasonably be expected to remain as high on the average as during the seven year period prior to 1911. In my opinion, it would not remain so high. The effect of the high prices for those seven years has caused the development and the opening of numerous mines and has brought a large quantity of ore into the market. This has made a depression in prices and lack of demand for some of the old ores.

Cross-examination.

By Mr. O'Neill:

I have been employed by Pickands, Mather & Company about twenty-two years. At present I am ore salesman. I have charge of the ore sales department. The business of Pickands, Mather & Company is that of ore sales agency. They operate the Sunday Lake,

Brotherton and Mikado Mines. They are engaged in the business of selling ore and in the business of mining it. They are miners as much as they are sellers of ore. The business of selling ore differs from the business of selling other commodities. Most commodities are sold throughout the year and from day to day or week to week or month to month. Iron ore is practically all sold within two or three weeks of a year. It is a very essential custom of the business. I think there is an inherent necessity of selling it that way. I do not know how the Lake Superior mines could exist if it were changed. It is necessary to sell ore at a particular time because it would otherwise be impossible for the mines to tell far enough ahead how to lay out their work properly. The same rule may apply to a farmer engaged in raising potatoes. I have had no experience in farming. I should judge that there was a great deal more labor and more capital necessary in handling iron ore than in raising potatoes. There are some mines that are not larger
99 than farms, but they probably do not get along very well. In marketing potatoes or other commodities the producer does not have to take into consideration the same elements as the miner of iron ore, that is, hardly so far ahead. The commodity must be marketed, it is true, and it must be transported. The farmer may sell his potatoes where they are raised. No one wishes to buy ore at a mine as they do not care to take the risk of transportation. This is very largely a matter of good policy. It may be a question of profit or loss when demand means necessity. The chances of uncertainty are very much greater in mining. I do not think the same element of uncertainty exists as to the product of a farm. The farm product can be moved almost any time in the year. The ice closes up the lakes along in November and prevents the shipment of ore until May 1st. The closing of navigation would be one element that would change the conditions with reference to the product of a mine and the product of a farm. The products of a farm are also moved by boat but not to anything like the extent of the ore traffic. I should say that more boats are engaged in carrying iron ore than wheat on the Great Lakes. It is not a fact that the closing of navigation on the Great Lakes interferes with the moving of the products of the farms of this country, just as much as it interferes with the moving of its products of its iron mines.

Pickands, Mather & Company are sales agents for these mines. They are not selling their own ore. They mine it as operators for other companies. They operate for the Sunday Lake Iron Company and the Brotherton Iron Mining Company and the Verona Mining Company. They have an arrangement for looking after the operation of the mines. I do not know how the Sunday Lake Iron Company is compensated for the ore removed by Pickands, Mather & Company. I do not know who owns the stock of the Sunday Lake Iron Company. I do not know that the Sunday Lake
100 Iron Company was merely organized for the convenience of Pickands, Mather & Company in operating the Sunday Lake Mine. When Pickands, Mather & Company mines the ore out

of the Sunday Lake Mine the ore is the property of the Sunday Lake Iron Company. I presume Pickands, Mather & Company does the work because they are employed to do it by the Sunday Lake Iron Company. I do not know who the officers of the Sunday Lake Iron Company are. Their office may be right there with ours but I do not know who the officers are. The same thing is true of the Brotherton Iron Mining Company. It has its office right there with Pickands, Mather & Company, and also the Verona Mining Company. I know that Pickands, Mather & Company are operators. So far as I know the principal offices of the Sunday Lake Iron Company, the Brotherton Iron Mining Company and the Verona Mining Company are in Cleveland, Ohio. I do not know that these corporations are organized under the laws of Michigan. I presume the butcher has the same problem confronting him as to the question of collections and watching the credits of the parties to whom he sells. I should think that everyone else engaged in any business that involves the selling of a commodity for consumption has the same problem. I think potatoes can be sold almost any time in any market. This is not true of iron ore. You must find the purchaser and you must know his conditions. There is not always a market. I had supposed that there was always a market for potatoes. I do not know of any other commodities that there is not a market for always. I own some real estate. I never attempted to sell it. I think there is a market for my real estate if I want to sell it. I do not know whether that is true generally of real estate. There is not a market for iron ore at times. I suppose there may be times when there is not a market for everything else but there are times when there is not a market for iron ore.

101 I would say approximately that the range or variation of prices from 1905 to 1912 was $1.20 per ton. During the past fifteen years there has been a fluctuation of approximately from $1.90 to $5.25 in the value of Bessemer ore. I should say this was quite a fluctuation in fifteen years. I do not know anything about whether fluctuations in wheat, during that period of time, or in potatoes or in hay has been greater. I have not bought any groceries or vegetables during that period of time. I do not know that a fluctuation in the value of an article from two to five dollars in fifteen years is nothing unusual. I do not pay any attention to the price of wheat as it requires all my time to look after the iron ore shipments. During certain years in the past there has been a fluctuation of the amount of ore shipped from the Lake Superior ports due to a variation in demand. 40,000,000 tons were shipped in 1912 and 28,000,000 tons were shipped some years back. I don't recall what year. Five or six years ago. Since the time when 28,000,000 tons were shipped from Upper Lake ports and up to the time that the 40,000,000 tons were shipped, several mines had been opened up owing to the high price of ore that had prevailed during those years. I suppose that it is a fair statement to say that the increased possibility of production may have had something to do with the increased shipments as well as the market, one depending of course

upon the other. The price of ore which I have got as $4.30 for the seven year period immediately preceding 1911 applies to Bessemer ore, 55 per cent. natural iron and .045 phosphorous. And for the seven year period previous to that the average price was $3.59 for the same quality and grade of or. I do not know it to be a fact that during the past seven or eight years prices of almost all commodities other than iron ore have advanced. I have heard considerable about the high cost of living. I think you will find that iron and steel finished products have not increased and I presume there are many other things the same way that have not increased. I believe that the prices of some commodities have not increased
102 during the past eight years. Undoubtedly, there are some commodities that have increased in value. I do not think that there has been a corresponding increase in the value of manufactured products of iron ore during that period. There has been improvement in the methods of manufacture. I think there would have to be something to offset the increase in the prices of raw material so that the manufacturer could continue in business if his product did not increase in value. I think it is true that the increase in the value of iron ore has been a natural increase due to natural conditions. It is a commodity used extensively in the material development of this country and the world. It is true that iron and steel are used in a great many new ways that were not in use years ago. The demand for iron is increasing as the world progresses. A higher value comes with this demand provided the supply does not increase faster than the demand. In order to keep down the price it is quite proper to increase the production. In order to increase the production new discoveries of iron ore are necessary. There is very good evidence in the new Cayuna Range which is now coming in that it will have a very material effect on the iron ore industry. I know nothing about the evidence here at Wakefield. I know nothing about the finding of ore sixty-five feet below the surface in the vicinity of the Sunday Lake Mine.

Q. Do you know that the Sunday Lake Mine and the Brotherton Mine and the Mikado Mine are operated to the extent of their capacity; that is, with the equipment that they have?

A. I know that we have asked the Sunday Lake and the Brotherton Companies to give us each year their maximum production. As sales agents it is their maximum that we are interested in and it has been this way in the good years. In good years, it is a question of how much can you produce. In poor years, it is quite the other way. The last three or four years have been good. I do not know as to what they promise to be in the future.

103 Pickands, Mather & Company as sale agents or in the act of selling this ore act as agent of the Sunday Lake Iron Company. Pickands, Mather & Company is a partnership, the partners residing in Cleveland. They have numerous employes in Cleveland and elsewhere. I do not recall any employees in Michigan. I presume the Sunday Lake Iron Company pay the employes of the Sunday Lake Iron Company. I do not know. My employment with Pickands, Mather & Company demands my presence in Cleve-

land at varying times. I may be there continually for a week or two and then be away for two or three weeks. I very seldom come to Michigan. I am consulted in making the transportation contracts for Pickands, Mather & Company. These negotiations are carried on with the agents of the steamship companies in Cleveland. Not all of the steamship companies have offices with Pickands, Mather & Company. The Pittsburg Steamship Company has no offices with Pickands, Mather & Company. Pickands, Mather & Company do not own any boats on the Great Lakes. I do not know that they are interested in any navigation company. I do know that Pickands, Mather & Company is not interested in the Pittsburg Steamship Company. I do not know if the partners of Pickands, Mather & Company individually are interested in the Pittsburg Steamship Company. There are quite a number of companies which handle our freight. Pickands, Mather & Company are interested in and control and operate a number of mines in Michigan and Minnesota. I do not know the exact number in Michigan. They operate more mines in the state than they do in Gogebic County. I do not know how many in Minnesota. I am consulted in a general way in regard to the making of contracts for the transportation of the product of these mines. I am aware of the different mines from which shipments are made. There are quite a number of mines operated by Pickands, Mather & Company that ship ore on the Great Lakes. The exact number I do not know.

104 I have charge of the ore sales department for Pickands, Mather & Company and have been in charge of this department for six or seven years. Prior to that time I was assistant in the ore sales department during the entire time that I have been employed by Pickands, Mather & Company. This department does not have charge of the contracts for the transportation of the ore from the mine to Cleveland. So far as the tonnage is concerned I am consulted however with reference to those matters. I am told how much ore they are going to have for me to sell. I am not interested beyond the fact that they get the tonnage to bring down the ore that was sold but I am not in the department that actually makes the contracts for the transportation of this ore from the mines to Cleveland. I am interested in selling the ore and seeing that it is delivered. I have not anything to do with the contracts for transportation. I am interested in knowing that they get the ore and that they pay for it. I also know that they are able to pay for it before it is delivered to them and this is the extent of my duties as manager of the sales department. I do not know of any connection between Pickands, Mather & Company and the Lackawanna Steel Company. The business of the Lackawanna Steel Company is smelting ores and manufacturing steel. A great proportion of the ores of these companies is used by the Lackawanna Steel Company. Pickands, Mather & Company some years furnish the Lackawanna Steel Company with most of the ores used by it in the manufacture of steel but not always. I think from my knowledge that there are a great many of the corporations engaged in mining iron ore in the Lake

Superior district that are not engaged in the manufacture of steel directly or indirectly.

I recall the Congressional investigation of the steel industry made by what was known as the Stanley Committee. I have heard of Andrew Carnegie. I don't know anything about his appearing before that committee as a witness except what I read in the papers.

105 I don't know that it is generally conceded among men engaged in the manufacturing of steel that it is impossible for new manufacturing steel plants to be started independently for the reason that it would be impossible for them to secure iron ore. We will offer now to supply any responsible parties with iron ore if they will pay a fair price. As manager of the ore sales department of Pickands, Mather & Company I suppose we finally determine who is and who is not a responsible party. It frequently happens that some of the ore produced from the Sunday Lake, Brotherton and Mikado Mines is sold in the State of Illinois. All such ore is transported by water. It would hardly stand the rail freight. It frequently happens that we can't make delivery because navigation on the Great Lakes closes before the ore can be gotten out. We could not always make delivery even if there were boats running because this depends upon the ability of the mine to hoist the ore. I think there is a pretty good tonnage moved down the Great Lakes in each season of navigation and this could be materially increased if you could find a market for the ore. Iron ore is not a perishable commodity.

I have no knowledge whatever as to the operation of mines. I do not have access to the books of Pickands, Mather & Company. Not all of the books of the Sunday Lake Iron Company are kept in the office of Pickands, Mather & Company. Mr. Amasa S. Mather has charge of the particular room that is known as the office of the Sunday Lake Iron Company in Cleveland. He is not secretary of Pickands, Mather & Company or one of the partners, so far as I know. I don't know that they have a secretary. Mr. Hazelton was secretary of the Brotherton Iron Mining Company and the Sunday Lake Iron Company.

The Mr. Mather whose name appears in the partnership is Mr. Samuel Mather. Mr. Amasa S. Mather is his son. I don't know whether the same employes, the same clerks, keep the books

106 of the Sunday Lake Iron Company, the Brotherton Iron Mining Company and the Verona Mining Company. I understand that the younger Mr. Mather is an officer in these companies and that he is secretary of all of them. Mr. E. P. Williams is treasurer of all three companies. I do not recall any other officer. I do not know what office space these three companies occupy. We have occupied our present offices for the past three or four months. I do not know what space these companies occupied in the premises previous to the change. Pickands, Mather & Company had occupied the former premises for several years, but I do not know what space, if any, the offices of the Sunday Lake, Brotherton and Verona Mining Company occupied. I do know that these companies had offices at the office of Pickands, Mather & Company. I suppose Mr.

Mather has a desk there and Mr. Williams also. That is about all that concerned me. I don't think they have a book-keeper. I have seen some book-keepers there but I could not tell you to which companies they belonged.

Redirect examination.

By Mr. Andrews:

I should imagine that there is a difference in the volume and manner in which potatoes and iron ore are handled. In marketing 100,000 tons of Sunday Lake ore perhaps $350,000 to $500,000 would be the amount involved. I do not know of any potato raiser that markets any such quantity. In marketing various grades of ore it is necessary and a very decided advantage in the business of selling ore to have in the same hands numerous grades. I have been engaged in the business of marketing and selling ore for a long while and I do not consider that I know it all now. It takes a lifetime to acquire this knowledge. The fact that the ore is selling in various
107 states affects materially the profits of the company. The profits depend upon that to a very great extent. In making a comparison with farm products I imagine that farm products are not assessed for taxation purposes upon the profits produced. I have never heard of such a thing.

Recross-examination.

By Mr. O'Neill:

I said that the value of 100,000 tons of Brotherton and Sunday Lake ore would be between $350,000 and $500,000. That would be the amount involved. I do not know whether that would be a greater amount involved than there would be in 100,000 tons of potatoes. I have never heard of that many potatoes being handled. It may be a matter of degree. I think you would find that it was necessary to have considerable knowledge and experience to handle iron ore. It is necessary to have peculiar, particular and extensive knowledge with reference to that so that the ore can be mixed. I do not know whether this is true of the distillery business or not. I think that you would find the selling of iron ore a very peculiar business if you once got into it. Possibly this is true of every business. I should not imagine that the profit derived from any kind of property determines its value. I do not think that the profits derived from a farm would determine the value to me. A man might make 5 cents on his potatoes or he might make a dollar. The question of profit would not be a fair basis. If farming business was more profitable farms would possibly be worth more. I do not think that the profits of a property determine the value of that property. I think that the value of property is determined by its selling price. Its selling price is determined by the price you can get for it. In determining the price you can get for it I suppose cost comes into it in some way. Generally the cost is determined by the
108 labor you put into it. The value of anything is the price it will sell for in my estimation.

Q. What determines the price that a piece of property will sell for, usually.

A. The price you can get for it. I suppose the price you can obtain for it is determined by supply and demand. I do not think that it is a question of profits.

Q. Is a mine that can be operated at a profit worth more than a mine which cannot be operated at a profit, or would you pay just the same for one as for the other?

A. Hardly; I would take the mine that could make the most profit.

Q. And you would pay the most for it, wouldn't you?

A. I think I would if I were sure the ore was there. I think I would pay more for a farm that could be operated at a profit than one which could not. In looking at this matter I can see the profits of a farm pretty well. If I were going to buy a farm I would look it over. I do not know whether the profit derived from a horse would determine its value or not as I am not a dealer in horses. I cannot tell by looking at a horse how much he is worth. I do not know anything about it. If I sold a mine for $900,000 I should imagine that would be the value of the mine.

JOHN SIMONSON, a witness called on behalf of the plaintiff, being first duly sworn, testified as follows:

Direct exaxmination.

By Mr. Belden:

I live in Wakefield Township and have resided there since February, 1900. In 1911 I held the official position in that Township of Supervisor. If I am not mistaken I think I was elected supervisor of Wakefield Township in April, 1911. I held that office for two years. I am not now supervisor. I have with me the assess-
109 ment roll which I made as supervisor in 1911. The description of the Sunday Lake Iron Company property as it appears on the assessment roll is the W½ of W½ of Section 10, Township 45 North, Range 45 West, containing 160 acres. In the spring of 1911 I assessed that property at $60,000. After this there was a meeting of the Board of Review of Wakefield Township on the 13th of June and they adopted that $60,000 assessment and entered the same in a separate column provided for that purpose. I have here the assessment made against the Iron Chief property. This is located on the E½ of the SW¼ in the same section, town and range. This property was assessed at $5,000. At this same meeting of the Board of Review to which I have referred the Board reviewed this assessment, adopted it and placed it in a separate column.

Mr. Belden: We offer in evidence the assessment roll of the Township of Wakefield for 1911 in so far as it relates to the Sunday Lake Iron Company, including the Sunday Lake Mine and the Iron Chief property, also including the names of the Board of Review.

It was agreed by counsel for the plaintiff and defendent that either side may read into the record from that roll anything competent,

relevant or material to the issues in the case as the case proceeds, subject to any objection that may be made as to the competency of the evidence.

MR. SIMONSON:

The names of the Board of Review are attached to the assessment roll and appear here. There are sixteen surveyed townships in Wakefield Township but they are not quite complete. One township runs up to Lake Superior and then the Township of Bessemer takes out twelve sections. The map which you show me does not quite correctly represent the outlines of the township geographically. There are some sections taken out for Bessemer right here (Indicating.)

Twelve sections are taken out and these now belong to Bessemer Township. These twelve sections are located on the West side of the Township. I do not know when these were cut out of Wakefield Township, but I know it was done before I was supervisor.

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Mr. Belden: For convenience in examination I offer in evidence this map of Wakefield Township excepting the twelve sections which the witness says have been cut out of the Township.

(Which said map last above referred to was received in evidence and marked Plaintiff's Exhibit 10, and will be found in the supplement attached hereto and made a part of this Bill of Exceptions.)

Wakefield Township is located in Town 47 Range 45. The iron mins in Wakefield Township are located in Town 47 Range 45. The principal iron mines are owned by the Verona Mining Company which has the Mikado Mine; the Sunday Lake Iron Mining Company; the Brotherton Iron Mining Company; the Chicago Iron Mining Company; the Pike Iron Mining Company and the Castile Mining Company. There are other mines but they are old and not working now. They call it the Meteor Mine. There are a few farmers in Wakefield Township. The majority of the farms are located in Township 47, Range 45. There are about fifty farmers I should judge in the township. The general character of the country in Wakefield Township outside the Township 47, Range 45, where the iron mines and the farmers are located, is mostly timber land. The Township extends north as far as Lake Superior and is about eighteen miles long north and south and about twelve miles wide on the south end and six miles on the north.

I was elected supervisor early in April 1911. I did not get the rolls until the last part of April. I ain't sure how long after that I began to make up the roll, but I think it was the last part of April when I got the roll. I did not get the roll right away after election.

The old Board had the books tangled up a little. Of course, the assessment roll didn't have anything to do with it. I was kind of a stranger. The old Supervisor held the assessment roll until the last part of April or else the first or second of May. I was rather new at the work and needed the old assessment rolls as a guide.

111

Q. After you finally received the new roll, where did you get the

descriptions of property and the names of the tax payers to include in the new roll?

Mr. Driscoll: That is objected to as incompetent, irrelevant and immaterial and not covered by the pleadings.
Mr. Belden: That is just preliminary.
The Court: Take the answer.
Mr. Driscoll: Exception.

A. I got it off the old assessment roll for 1910.

Mr. Belden:

Q. I suppose you copied it off into the new book?

Mr. Driscoll: Same objection.
The Court: Same ruling.
Mr. Driscoll: Exception.

A. Yes.
It is rather difficult for a new man to make up the assessment roll. A man is just elected and a new man he does not know anything about it. A township like our township it takes a long time to go over the township and find out what the property is worth. I did not have time to go over the township and find out what the property was worth. A man has not time to do this. The supervisor must have his roll ready at least by the middle of June to take it to the Board of Review and he has only a little time, something more than a month, in which to make the assessments. I want to work and looked over more than one of the old assessment rolls.

Mr. Driscoll: We wish to have an objection and exception to all this evidence for the same reasons before stated.
The Court: Yes.

112 Mr. Simonson: I went to work and looked over several of these old assessment rolls. I based my opinion upon the values which had been placed on property heretofore. I thought this value was right because I was unable to get over the property and view it. When I looked at them old rolls I saw that the valuations was about the same all through and I was unable to change much those valuations because I wasn't able to go there and see the property. The valuations which I placed on this property which I was not able to see were substantially the same as had been placed on this property in the other assessment rolls.
I live in the surveyed township 47 range 45. I knew something about the value of property in this township. The townships with which I was not familiar or not able to see before making up my assessment roll were as follows: nearly all of Township 47-44, 48-44, 49-45 and 50-45. I did see more or less of the nearer ones but those to the north I did not have a chance to view when I made the assessment roll in 1911, I don't hardly think I was as far north as that.
Q. State the facts as to whether or not there was any general understanding in Wakefield Township among the citizens generally as to whether these valuations which you are talking about and which

had been usually placed on the assessment rolls represented the full, true, cash value of the property.

Mr. Driscoll: That is objected to as incompetent, irrelevant and immaterial.

The Court: Take the answer.

Mr. Driscoll: Exception.

A. I did not really talk with any of them about valuations. I do not remember if I talked with anybody or not. I passed my opinion that the valuations that were on before my time as supervisor were pretty nearly right. The property was valued about the same for a number of years before I was elected to office. I used my opinion
113 in basing my assessment and upon what had been done before in the township. I did not merely copy these descriptions from the old roll but I used my judgment before I put them on. With reference to the property which I had not seen and which I did not know anything about, I was perhaps just making the roll as it had usually been made before. I was unable to know what there was on the land. I did not have time to make a personal examination. I had only a little more than a month within which to make the whole assessment roll. No man has time to look over our township in such a short time and know all that is in it.

I attended the meeting of the Board of Review in June, 1911. The Board of Review did make some little changes because the members of the Board of Review knew more about that country to the north and some of those timber lands than I did and some of these descriptions were raised a little. Perhaps a change of forty, fifty or sixty dollars on some forties was made. I am not quite sure of the exact number that were raised but I do know they made some changes. After I had completed the work of making this roll in 1911 I then began to make a personal examination of the township. During almost the entire summer I made trips into the woods and looked over the timber lands and the timber properties. At different times I went out looking over some of these lands. I was re-elected supervisor in April, 1912, and I prepared the roll of that year. Prior to the time when I began the roll for 1912 I had been in all of the townships except that I am not sure whether I crossed the line to township 49, range 50. That's right near the lake. I was in all the surveyed townships except townships 49, range 40. During my visits I came to the conclusion that this land was good land. It was good land and the majority of it had good timber on it. The majority of that land is good farming land. I found some pretty fair timber lands. I made a sufficient investigation so that I could form a general conclusion as to whether this land had been as-
114 sessed correctly or not. I was of the opinion that it had not been assessed enough in 1911.

Mr. Driscoll: I move to strike that out as incompetent, irrelevant and immaterial.

The Court: The motion is denied.

Mr. Driscoll: Exception.

Mr. Belden:

Q. Go on and state in a general way what you did and what conclusions you reached there.

Mr. Driscoll: May we have an objection and exception to all this?
The Court: Yes.

A. I went out to find out about this land and how that land looked and how it is timbered. I made those trips on purpose to find it out. After I made those trips in different directions I came to the conclusion that the land was not valuated enough.

Q. State whether or not this land which you reached the conclusion was not valued enough was the same property which you had put on the roll in 1911 at substantially the same figures as the other rolls.

A. It was practically the same territory.

Q. After examining it did you form any conclusion as to the relative, the general difference in value, between the figures which you had put on the roll in 1911 and what you thought it was actually worth?

A. I don't understand that question.

Q. Did you conclude that it was worth twice or three times as much or any general conclusion of that kind?

A. I thought it was worth quite a bit more.

Mr. O'Neill: We would like a general objection and exception to this.

Mr. Belden:

Q. Did you reach any general conclusion as to how much more? I will ask you about some of this later. I am asking you now if you reached a general conclusion as to how many times more or how much more it was worth than the figure you put on it in 1911.

115 A. The 1912 assessment roll shows that pretty close. The book which you now show me is the assessment roll for 1912.

Mr. Belden: I would like to have this marked for identification. (Which said book was marked Exhibit 11 for identification.)

Q. I will ask you about the NE¼ of the NE¼ of Section 1, Township 47, Range 44 on the 1911 assessment roll.

A. In 1911 the Keweenaw Association, Limited, was the owner of that description of land and I assessed it for that year at $200 per forty.

Q. After you had made the investigation which you have described, what conclusion did you reach as to the true cash value of that description?

A. It shows in the book.

Q. I am asking you what your judgment was. You can look in the book if you want to.

A. I do not remember all the different descriptions separately but I put it in the book just the way I thought it ought to be. I gave that description at $600. I thought this property was worth

$600. This was a rough estimate. I never was in each one of those forties separately. I passed my opinion on the territory. When I made this second roll I had been out in that territory enough so that I had a general idea of the value of the land in that vicinity. After I made my assessment in 1911 the State Tax Commission employed field men to look over Wakefield Township. I do not know the number. I think they had more than four or five. In fact, quite a number of men were employed. I inquired of a man who had charge of the crew and he told me that the men had been all over the township. The Board of Review of Wakefield Township at its meeting in June 1912, did not make any change in my assessment of the forty I have just spoken about. When the State Board of Tax Commissioners reviewed the 1912 roll in Wake-
116 field Township they placed this description, the NE¼ of the NE¼ of Section 1, at $850 instead of $600.

Q. I call your attention to the NE¼ of the NE¼ of Section 2, same township, and ask you what you assessed that property at in 1911.

A. $200.

Q. After you made this investigation which you have described, what conclusion did you reach as to the true cash value of that property?

A. I put it at $600 on the 1912 roll, except that I deducted $10 for the mineral right which was assessed separately. This left the surface and timber at $590. I thought this property was worth that much. The assessment was confirmed by the Board of Review at the 1912 meeting. The State Board of Tax Commissioners placed it at $925.

In 1911 I assessed the SW¼ of the NE¼ of Section 3, same town and range, at $180. That same year the Board of Review raised this to $200. After I had made my investigation I came to the conclusion that the true cash value of that forty was $550. This assessment was confirmed by the Board of Review in 1912. The State Tax Commission in 1912 valued this property at $1050.

I assessed in 1911 the NW¼ of the SW¼ of Section 4, same town and range, at $200. I think this property is owned by the Tula Lumber Company. The Board of Review in 1911 cut this property down to $100. After I had made my investigation I placed upon this property as the true cash value $550. The Board of Review at its meeting in 1912 left this assessment at $550. The State Tax Commission in 1912 raised this forty to $1450.

The NW¼ of the SW¼ of Section 6 in the same town and range is owned by J. M. Longyear. In 1911 I assessed that forty at $180. The Board of Review placed it at the meeting for that year at $200. After my investigation I assessed that property in 1912 at $560. The Board of Review in 1912 confirmed that assessment. The Board of State Tax Commissioners assessed that forty at $675.

117 The SW¼ of the NW¼ of Section 7, same town and range, is owned by J. M. Longyear. I assessed this in 1911 at $180. The Board of Review confirmed it. After my investigation, I concluded that $560 was the true cash value of that forty.

The Board of Review confirmed this assessment and the Board of State Tax Commissioners raised this value to $1,250.

The SW¼ of the NW¼, Section 10, same town and range, is owned by the Oliver Iron Mining Company. I assessed this forty in 1911 at $225. The Board of Review left it at this same figure. After my investigation I concluded that the true cash value of this property was $360. The Board of Review confirmed that opinion. The State Board of Tax Commissioners raised this valuation to $1,400.

The facts which I have given in regard to these forties are generally true of all the changes I made in making up the roll of 1912; in other words, where I made these increases it was the result of this later investigation I made and the changes represent my opinion of the true cash value of the property.

Q. I hand you a sheet containing a tabulation covering a number of descriptions of property in every surveyed township in the Township of Wakefield and I will ask you if you have checked that statement with the rolls of 1911 and 1912 so that you know whether or not it is correct and corresponds.

A. I did check this over yesterday and also another list with this.

Mr. Belden: Purely for the purpose of reference and not with any thought of adding anything to the evidence, I offer this tabulation in evidence with the distinct understanding that wherever any figure in this table differs from the roll, if such a thing does happen, it may be corrected to correspond.

Which said table last above referred to was received in evidence, subject to the objection and exception of the defendant, and marked Exhibit 12 and is found in the supplement to this record and is made a part of this bill of exceptions.

118 Q. State whether or not the assessments made by the State Board were made in conjunction with you or upon their own data.

A. I didn't have anything to do with that all. They did that.

Q. I will ask you to state whether or not these descriptions which we have referred to on this sheet and which consist of eight or ten from each surveyed township, each of them being in different sections, were fairly representative of the difference between your assessment in 1911 and your assessment in 1912?

A. I think it is.

Mr. O'Neill: I object to that as incompetent, irrelevant and immaterial and calling for the conclusion of the witness whether it is representative.

Mr. Belden: This witness made both rolls and he ought to know.

The Court: The answer will stand.

Mr. O'Neill: Exception.

Turning to the assessment roll of 1911 to the pages containing the assessments of village property in the village of Wakefield, I find that Lot 1 of Block 1 was owned by Julius Simons and J. A. Johnson. I find that I assessed this property in 1911 for $700.

There is a house on this lot. The Board of Review cut down this valuation to $600. After I had made my investigation to consider the value of the property I reached the conclusion that the true cash value of that parcel was $1,000, and I assessed it for that amount on the roll of 1912. The owners had repaired the place a little since 1911. The Board of Review in 1912 left the assessment at $1,000. The Board of State Tax Commissioners in 1912 placed this property at $1,500.

Referring to the outside property which I have spoken about in connection with Exhibit 12, I do not think there was any change between 1911 and 1912 and that the property was
119 in substantially the same condition. A few forties may have been cut off but that is all. I do not think there were many changes in it as far as I know.

Elof Johnson was in 1911 the owner of the following described parcel of land in the village of Wakefield; the south fifty-five feet of the north one hundred five feet of Lot 6 in Block 3. I assessed this property in that year at $1,000. The Board of Review cut this down to $700. After my investigation, I placed this property in 1912 at $2,300.

Q. Had there been any material change in the condition of that property?

A. Not much, I don't think. The Board of Review in 1912 confirmed my assessment. In the fall of 1912 the State Board of Tax Commissioners raised this from $2,300 to $4,900. A hotel and a saloon are located on this property.

Q. Those buildings were there in 1911?

A. Yes.

Q. Just as they were in 1912?

A. He probably fixed it up a little. I don't know whether the building was quite completed in 1911 or not.

Q. To what extent had it been changed?

A. There wasn't very much change.

The Court: Was that a new building?

A. Yes.

The Court: In the course of construction in 1911?

A. I think they done some work inside in 1911. I think it was all right outside. I ain't sure whether they sided one side afterwards or not. If I ain't mistaken, they did.

The following parcel of land in the Village of Wakefield was owned in 1911 by Skud and Goldman; the west 100 feet of Lot 2 in Block 2. In 1911 I assessed this property at $1,100. In that year there was a store building on the premises. The same building was there in 1912. After my investigation, I placed it on the assessment roll for $2,700, but there were quite a number of changes in that building after the 1911 assessment was made.
120 The Board of Review left it at this figure but the Board of State Tax Commissioners in 1912 raised it from $2,700 to $3,300. The upstairs of this building was fixed and finished and some other changes made inside. The change which I made between $1,100 and $2,700 was not made because of these repairs.

I thought that it was improved so much that a higher value should be placed upon it. I was of the opinion that it was not valuated enough in 1911.

Thomas Ashland is the owner of the entire Block 28 in the Village of Wakefield. I assesed that block in 1911 for $500. The Board of Review left it at this sum. In 1912, after my investigation, I came to the conclusion that it was worth $1,800. The Board of Review cut it down to $1,500 in that year. The State Board of Tax Commissioners raised it from $1,500 to $2,700. I raised pretty near every description more or less. The property in the Village of Wakefield was in the same condition physically in 1912 as it was in 1911 and I raised the valuation because I thought it was not high enough in 1911. I didn't make that charge because I thought it was under-valued in 1911.

Turning to the assessment of the personal property of E. R. Hilles, I assessed that property in 1911 at $250. His personal property consisted of kind of livery stuff, a livery barn, including buggies, horses, carriages and wagons. The Board of Review in 1911 left this assessment at the same amount. When I made up my roll in 1912 Mr. Hilles probably had some new horses, perhaps a few more horses than he had in 1911 but I could not state just how many. In 1912 I assessed his property at $700. The Board of Review at its meeting left it at this amount. The State Board in the fall did not make any change.

In 1911 I assessed the Wakefield Store Company on its personal property for $3,000. Their property consisted of a stock of merchandise, wagons, equipment, and a few horses and such things
121 as they used in their business. In 1911 the Board of Review left this value of $3,000 the same. In 1912 I placed this assessment at $5,000. This company did not file with me a tax return. There were a few statements filed for a number of parties but not for these stores. The property of the Wakefield Store Company was about the same in 1912 as it was in 1911. I added the $2,000 to the 1911 valuation in order to get what I thought was right. I made numerous changes in the personal assessments of 1912 for the same reason.

In 1911 I assessed the personal property of the Tula Lumber Company at $1,000 and this was confirmed in that year by the Board of Review. There was quite a difference between their personal property in 1911 and 1912. They had a stock of lumber which they did not have in 1911. In 1912 I placed an assessment of $15,000 upon this property. I think I made this change because they had more stock in 1912 on this property. They had some lumber and logs on hand which they did not have in 1911.

In 1911 I assessed the personal property of A. Ringsmuth at $1,500. This included a stock of lumber and hardware. The Board of Review in 1911 raised this to $2,200. There was not much difference in this stock of personal property in 1912 and 1911. He had a little more lumber in 1912 or a little more stock in that year. In 1912 I assessed this at $5,000 and the Board of Review confirmed it. The State Board of Tax Commissioners raised this amount to $5,500.

In 1911, I assessed Skud and Goldman $3,000 and this was confirmed by the Board of Review. In 1912 I assessed this property for $7,000. I believe they had a little more stock in 1912 but I passed my opinion because the stock was not high enough the year before. There were two reasons why I raised it. The Board of Review left it at $7,000 and the State Board of Tax Commissioners confirmed this amount.

We have a bank in Wakefield Township in the Village of
122 Wakefield. I do not know what kind of a bank it is. I do not believe it is either a national bank or a state bank. It is called the Citizens' Bank. I do not know whether they had any deposits or not in 1911 and I did not include anything on the assessment roll for that year for bank deposits. I did not make any inquiry to find out what money any of these tax payers had in the bank. I do not think they had hardly any at that time because the bank had just started in. I only made a little investigation of the stock they sold out.

Referring again to the farm property and timber land outside of the Village of Wakefield, the property was worth according to its true cash value in 1911 the amount I assessed against it in 1912. I do not believe I made any over-assessment on any of the farming property. So far as the timber land is concerned, there is no one man who can see each and every forty separate. The chances are that some of those timber forties are a little high. In so far as the State Board changed my figures in 1912, they raised them all the way through and raised them quite a bit too. They doubled lots of that property.

Mr. Belden: We now offer in evidence the 1912 roll with the same understanding as to the 1911 roll; either side may use it or read from it so far as its contents shall be relevant and material to the issues in this case.

The Court: I don't think you really offered the 1911 roll.

Mr. Belden: Well, we offer it right now then if we didn't. We now offer in evidence both the 1911 roll and the 1912 roll of Wakefield Township.

Mr. Driscoll: We object to them as incompetent, irrelevant and immaterial. We make that objection separately to each of them, and for the further reason that the 1912 roll represents conditions which existed after the time of the making of the 1911 assessment and was reviewed by a different board of Review and a different Board
123 of State Tax Commissioners from the 1911 assessments, new and other members composing those boards in 1912.

The Court: The objection will be over-ruled. The rolls will be admitted. You will have the benefit of an exception. I think there is a good deal of merit in that objection, but for the present the objection will be over-ruled.

Turning to the personal property assessments for 1911, I find that I assessed the personal property of the Sunday Lake Iron Company at $10,000. The Board of Review confirmed this amount. This assessment of $10,000 covered and included stockpile and every-

thing that they have around the mine except the machinery, which I understood is not assessable. It also covered timber, mining supplies and office furniture.

Turning to the assessment of the Sunday Lake Iron Company realty, I assessed it at $60,000 and the Board of Review placed it at $60,000, and the State Board put it up to $989,000. Taking the figures for the Iron Chief owned by the same company, I find that the realty was assessed by the supervisor at $5,000, confirmed by the Board of Review and placed at $82,000 by the Board of State Tax Commissioners. The total amount of taxes as levied and assessed against the Sunday Lake Iron Company for its property in 1911 as shown by my roll, exclusive of the collection fee, was $29,175.50. I did not have anything to do with the receiving of the payment of those taxes.

Cross-examination.

By Mr. Driscoll:

Prior to 1911 I had acted as a public officer but not as supervisor. I was elected supervisor at the annual election of 1911, and I had no experience about the office before that time. After I went in as supervisor they did not have the treasurer's books quite
124 ready and they turned them in a little later and I did not get my book neither. I thought that was included with them; I mean the assessment roll of 1910. The supervisor before me had the books before. The supervisor before me was Mr. Neidhold and he lives in Wakefield. After I received the assessment roll I went about the assessment of the property in the best manner I could. The township was very large and I could not get around and examine all the property personally. I did the best I could about making a personal examination of the property as I did not have very much time. The clerical work of making up the assessment roll does not take so very much time to do the actual work, but it takes a long time to fill such a large size book. The book which I have contains 151 pages.

There are two villages in Wakefield Township, known as the Village of Wakefield and the Village of Flink. Outside of these and the mines, the township is mostly wild timber land. A person can get around all right if he only has time in which to do it. The traveling in the woods during the month of April is not very good and the woods are wet. In April it is rather a hard proposition to get into the norther part of the township. It can be done but not very well. There is a river which has to be crossed and there is no bridge, and in the spring a raft would have to be made in order to cross it. This river is known as the Presque Isle River and is a pretty large size stream. The farms in the township are conducted generally by new settlers. They have small buildings and not much of the land is cleared. The farms do not amount to very much. Up until five or six years ago there was very little demand for farm land. I do not know whether it is very difficult to lumber the timber in the northern part of the township. It is quite a distance

from the mills but it would be easy enough to put a mill out there if any amount of timber was secured. The Duluth, South Shore Railroad crosses the township in Township 48, Range
125 45. Logging has been done within eight miles of the railroad and only the pine was cut off, and some of that was allowed to remain. There is some kind of a trail across the northern part of the township but the road is not very good.

In the village of Wakefield because of business being good and more mines being opened and prospects better, I guess things are looking better now than they ever were for quite a few years. I guess that doubled the valuation of village property, as much as I can make out. It is true that not very many years ago business was dull generally around the village and property was not nearly so much in demand as it is now. Before Mr. Neidhold was supervisor, Mr. Walton who was superintendent of the Brotherton and Sunday Lake Mines, held this office. Mr. Walton is now dead, but he was superintendent there for six or seven years. He died the year before last. In examining the assessment rolls which I examined before making up my tax roll in 1911, I exaxmined some of the rolls which Mr. Walton had made out. There was not much difference between the assessments which he had put upon lands and property in general and the assessment which I placed upon property in 1911. I probably placed my assessment at a somewhat higher point on some of the descriptions. A man named Brown and George Sulke were on the Board of Review with me in 1911. Sulke and a man named John Trudgeon were on the Board of Review in 1910. The Board of Review meetings in 1911 were held at the regular times and at the Town Hall which is located about a mile from the mining office of the Sunday Lake Iron Company. The Sunday Lake Mine is one of the largest in the township and Mr. Walton was superintendent of that mine during all of the time while he was supervisor.

Q. And during all the time while he was supervisor, was the property in the township assessed year after year at substantially the same figures?

A. The way those rolls shows, pretty close to it, yes.
126 From the old assessment rolls I should say that property in the township was assessed year after year at substantially the same figures. Mr. Walton called at the meeting of the Board of Review in 1911.

Q. State whether or not he consulted with you as to the valuation of the property of the township.

A. He came in there. He thought the valuation was too high.

Q. On what property?

A. On the Verona Mine property, and if I ain't mistaken, I think he said on the Sunday Lake. During the six or seven years that I have mentioned while Mr. Walton was superintendent of the company's affairs, he had full charge of the property and affairs at Wakefield. I think he was the head man. Mr. Walton came before the Board of Review in that township and talked to the Board about the Verona property and the Sunday Lake property. He didn't talk to

me separately. Mr. Brown, Sulke and myself were present. The property of the company was assessed then at $60,000. Before this I had a talk with Captain Walton but I did not tell him in that talk that I had substantially followed his figures in the assessment of the other property in the township. I did not tell him that I looked over his figures because he knew it. He handed the rolls to me. I went into his office and said that I would like to see some of the old assessment rolls. Sometimes I was well acquainted with him and sometimes I was not. The old assessment rolls were in his office in the drawer there. This was in the mining company's office. He had a separate room there in that building. Captain Walton had the rolls in the mining office in a separate room but I do not know whether he used this room for his office as superintendent of the company. This office conected with the main office. At the time of my visit he had two of the rolls for Wakefield Township in his possession and I looked over these and another one which I got from Mr. Neidhold before making my assessment in 1911. The
127 roll I secured from Mr. Neidhold was almost the same as the ones I received from Mr. Walton. Mr. Neidhold made the assessment roll in 1910 and I think one of Mr. Walton's rolls was for 1908 and the other was older than that. When Mr. Walton was at the Board of Review meeting in 1911 he did not make any complaint about the value I had placed on other property outside of the Sunday Lake and Verona. I am not quite sure whether he did make complaint about the Sunday Lake, but he did complain of the valuation on the Mikado. When he made complaint about the Mikado property I asked him a few questions and the reasons for which he wanted the valuation cut down. He explained to the Board the reasons, saying that they had run out of ore and that they did not know whether they were going to find it again or not. He said that they had lost the ore; they didn't have any more ore in there or very little. They have been running the mine ever since but I do not know how much ore they have hoisted since that time. I think at times that they hoist very little.

After I started in making up the roll in 1911 I was just about as busy as I could be making up that roll, and I did the very best I could to put down the property on the roll at its true cash value, using my honest and best judgment in regard to it. The extent of the township and the amount of property in it would not permit my personal examination of any more of it than I did examine during the first year. I was a member of the Board of Review in 1911. So far as I was personally concerned I used my very best judgment in passing on the assessments at its meetings and so far as I know the other members did the same. As far as I know we all exercised our honest and best judgment in passing on those assessments. We endeavored to put everything down at the true cash value. Both when I assessed the property of the township in 1911 and at the time I sat and acted as a member of the Board of Review, I en-
128 deavored to put the property down at its true cash value and I used my honest and best judgment on it. After I made the assessment in 1911, and after the Board of Review had met, I

came to the conclusion that certain of this property and a large part of it was under-valued in 1911. I made all my investigations to which I have testified and which caused me to change my opinion as to the value of property after the second meeting of the Board of Review in 1911. I made them all afterwards because I didn't have time before. Most of the information was obtained by me a long time afterwards. In making the valuations in 1912 I raised a considerable number of descriptions. It is a fact that from January 1st, 1912, up to a period long after I made my 1912 assessment, members of the State Tax Commission and employes of the Commission were in Wakefield Township making a thorough examination of the property for the purpose of valuing it. I did not receive during the year 1912 any information from the Commission or the men who were working for them which aided me in making up my roll in 1912. I did talk with some of these men but I never asked for any information nor did I receive any while talking with them. I tried to find out right along the value of property while I was supervisor. I did not receive any information from the employes of the Commission because I tried to make my own assessment as good as possible and then I wanted to see what the Commission did afterwards. I wanted to use my own judgment and I did not care for what the Commission did. I think that timber land in Wakefield Township has increased in value more or less during the past seven or eight years. I know it has been increasing more or less.

Q. In the three assessment rolls which you read over before you made your assessment roll for 1911, isn't it true that the Sunday Lake property had been put in at some $60,000 or $65,000?

A. I forget that property. I think so. I think one of them rolls shows the Sunday Lake property down to $40,000.

129 Q. One of those which you found in the office?

A. One I was looking at before I made my assessment roll.

Q. Was it one of the rolls which you found in the office of Mr. Walton?

A. I guess it was one of those rolls, but I ain't quite sure whether those rolls were made up by Mr. Walton or some one else before him. I ain't quite sure about that. I think Mr. Walton was supervisor of the township of Wakefield three years. He was supervisor for two years, and then he was out two years and then he was again supervisor a year before Neidhold. I do not know whether it was the roll furnished me by Mr. Walton which showed it at this amount. When I made my assessment in 1911 I did not receive a statement from this company. I sent out notices to each company and I think I sent one to each individual in our township whom I thought had any amount of property at all, but they never returned it. As far as I can recall, the Sunday Lake Mining Company did not return the statement I sent it to fill out.

I have lived in Wakefield since 1900 and worked in the mines the first few years and afterwards had a shoemaker shop for five or six years, and then I was janitor of the school house. Before that I worked in Ironwood in the East Norrie Mine tramming. In Wakefield I worked at mining for two years. I worked for the Sunday Lake

Mining Company a while and then for the Meteor Mine and then for the old Comet Mine. I was in the employ of the Sunday Lake Mining Company for about a year. I worked on the 10th and 11th levels. When I was elected supervisor I was janitor of the Wakefield public schools. I had some general knowledge as to the persons who compose the Township Board and the School Board of Wakefield Township. The offices of the School Board are held by individuals, not by mining men during the time I have been janitor. When I started they did not have any mining men on the School Board and afterwards they had one and I think they have
130 one now but four of them have been men not engaged in mining. The supervisor of Wakefield Township with the exception of the time when I was supervisor, has not always been an agent or an employe of the mining company. Alfred Calendar served two years. I do not believe the mining company had anything to do with him. This was before my election.

C. H. MUNGER, a witness on behalf of the plaintiff, being first duly sworn, testified as follows:

Direct examination.

By Mr. Belden:

I reside in Duluth, Minnesota, and I am general manager of the plaintiff company, holding that position for the past six years. I have been familiar with the mines on the Gogebic Range in general for twenty-nine years and Wakefield Township for six years. I resided in Gogebic County from 1886 until 1897. I have been connected with the iron mining business for twenty-nine years. Prior to my connection with the Sunday Lake Iron Company I have been connected with the Norrie Mine and the Odanah Mining Company. The Norrie Mine is at Ironwood and the Odanah is on the west side of the river. I have had experience on the other iron ranges in the Lake Superior region at Marquette and Menominee. I am connected with the general group of mines operated by Pickands, Mather & Company, of Cleveland. I am general manager of the group of mines so operated by Pickands, Mather & Company. I do not remember when the original Sunday Lake Iron Company took over the Sunday Lake Mine but as I remember it the present management took this mine six years ago in May. Before that time Joseph Sellwood had the controlling interest. Another set of stock-
131 holders owned it then at the time when the present Sunday Lake management took it over. I am not positive whether the mine was in operation all of the time from 1900 down to the time when the present stockholders sold out to the present interest. While Mr. Sellwood held the lease he operated it part of the time at least. This mine has been operated at intervals since the beginning. I have been underground in the Sunday Lake Mine a great number of times. I think my experience underground began in the winter of 1907. Since 1907 I have kept myself familiar with the underground condition and this has been obtained by personal ex-

amination. The ore bodies in the Sunday Lake Mine have not been regular or continuous in their form. So far as I know this same comment applies to the history of the mine. I would like to modify my former statement for the reason that I examined that mine in 1887 and it was very irregular in appearance at that time. It was cut up by rock intrusions. These rock intrusions simply displace that much ore. As an effect of these intrusions ore bodies pinched out in a great many places and the ore was not continuous. The description of the irregularity of the ore bodies which I have given is true at the present time and it is more irregular at the present time than it was for some distance above the bottom levels.

I am familiar with the underground conditions at the Brotherton Mine which adjoins the Sunday Lake on the west. I have been familiar with the conditions in that mine for the same length of time, and my connection with the Brotherton has been such that I have visited it at frequent intervals. I have charge of the management of the Brotherton Mine also. The Brotherton and Sunday Lake Mines are both located on the same general ore body. The present levels of the two mines connect with each other.

Q. State the facts as to what determines the bottom of the ore body in the Brotherton Mine.

Mr. O'Neill: We object to that as incompetent, irrelevant and immaterial.

132 Mr. Belden: We will connect that with the Sunday Lake. I am asking that only as it bears upon the conditions at the Sunday Lake Mine.

The Court: You may proceed.

Mr. O'Neill: Exception.

A. A diorite dyke.

Mr. Belden:

Q. Referring to the map pinned on the blackboard, which is Exhibit 7; I will ask you if the dyke shown on that map in yellow is the dyke to which you refer?

A. Yes.

Mr. Driscoll: We move to strike out this evidence and object to any further evidence showing conditions subsequent to the making of the 1911 assessment.

The Court: Over-ruled.

Mr. Driscoll: May we have a general objection and exception to this?

The Court: Yes.

Mr. Munger: The dyke was shown and known at the time of the Finlay appraisal in 1911 down as far as the 20th level. The only difference between the dyke as it appears on the map and the dyke as they saw it is below the 20th level. The dyke is pitching toward the east. I am more or less familiar with the general course of diorite dykes on the Gogebic Range. At the time that Finlay made his appraisal in 1911, this dyke was not flattening toward the east. Re-

ferring to the map and basing my opinion upon my knowledge of these mines and the general geological formation at this point, this dyke indicates that it will continue over on the Sunday Lake and cut out the ore as it is doing on the Brotherton. You can see that its course is generally in that direction. In some places it is flatter than in others. I have met Mr. J. R. Finlay. I was not at the mine in 1911 at the time he made his investigation or when this appraisal was made and I did not meet him personally in connection with his work. I had no conversation or talk with him
133 while he was making this investigation.

Q. Now, referring back to the dyke, will you go on and describe what the developments since 1911 have shown with reference to this dyke; with reference to its course and flattening out?

Mr. O'Neill: May it be understood that this goes in under the general objection?

The Court: Yes; you will have the benefit of an exception.

A. The developments since 1911 have not, in reference to this dyke, indicated anything different from what I stated before. One indication that we are getting near the dyke on the Sunday Lake is that the ore is increasing in phosphorous which was found on the Brotherton property. This character of ore was found on the Brotherton near the dyke; the nearer the dyke the higher the phosphorous. In our developments below the 20th level at the Brotherton it is shown that the ore is practically pinched out on the 21st level so far as a merchantable ore body is concerned. The ore is not only of a lower quality but it is very much less in quantity. We have penetrated this dyke in the Brotherton property at various places—on the 11th level and the 19th and on the 21st level. The dyke at these various places was penetrated by drifts and these drifts indicated that the character of the material beyond or underneath the dyke was a lean formation. I have been in those drifts with the exception of the 21st and have seen it myself. In my opinion, basing it upon all the indications from such explorations, I would say there is nothing to indicate an ore body underneath that dyke. This is true of all the different places where we have pierced the dyke at the Brotherton and also to the west in the Pike property, which we operated for two years. This statement of opinion which I have given with reference to the dyke in the Brotherton is true of the conditions in the Pike to the west of it. There
134 was a little ore in the Pike when we first took it but we finally surrendered the lease as worthless as a mining proposition. We operated it at a loss.

In 1911 the Sunday Lake property had reached a depth in mining operations of a little over 1,000 feet. The 20th level was the bottom level and when in 1911 Mr. Finlay made his investigation and the State Board made its review of the assessment there had not been any diamond drilling done on this bottom level at the Sunday Lake. There were no drifts or winzes or anything of that kind extending below the bottom level except the shaft which was back in the footwall and not in the ore at all. Neither the shaft nor any workings

in it would indicate anything about the ore body. There was nothing whatever in our mining operations to show how far the Sunday Lake ore body extended below the 20th level. Conditions were the same in the Brotherton Mine. In regard to the report which is Exhibit 5 and which was filed by the Sunday Lake Iron Company with Mr. Finlay, the part of it which relates to tonnage and analysis was made up under my supervision. The estimate of ore above the bottom level given by me to Mr. Finlay was 150,000 tons, consisting of an estimate of the known ore of two grades. This was made up of 40,000 tons of non-Bessemer and 110,000 tons of Bessemer ore. This known ore was chiefly located above the 20th level and extending up to the 19th, a little above the 19th. Part of the ore below the 19th had been mined out. At that time there was not any merchantable ore left above the 18th level that we knew of.

On the sketch of the lower levels of the Sunday Lake Mine and called Exhibit 8 is shown the ore conditions as they were at that time. The ore is indicated by the red color and this extended from the 20th up to the 19th, some having been mined out below the 19th. There was some left above the 19th in the middle portion of the mine. The streak of red color at the bottom of the 18th level indicates the ore, but there was more than that in 1911. On
135 the 19th level the ore was mined out a little at either end but most of it was in place. Where I have pointed to would be between the 19th and 20th levels and that was the bottom layer of ore then known in the mine. I had been in every part of that level and I made an estimate of the probable amount of ore which would be found below the level for the Commission. The estimate that I returned to Mr. Finlay as the probable tonnage below the 20th level was 100,000 tons. I based that calculation on the probability that the ore extended down to the depth of another level or about 100 feet, and allowed for rock intrusions—possible rock intrusions. I considered that the estimate so made by me to Mr. Finlay and the Tax Commission was a safe one to estimate and made after a careful consideration of the question. I believe Mr. Finlay estimated the tonnage of ore in the Sunday Lake Mine at 1,500,000 tons. Assuming that the ore kept the length and width that it had at the 20th level, and with all clean ore, we would have to extend that mine ten levels below the 20th level, which would be about 1,000 feet, in order to get the quantity of ore which Mr. Finlay estimated. Deducting what was in sight at that time it would take about nine levels below the bottom or 20th level. Assuming that the diorite dyke under the Brotherton Mine should continue its general course easterly, it would cut off a large part of these assumed lower levels taken into account by Mr. Finlay. The effect of this dyke would be in addition to the rock intrusions which I have mentioned above. We might find the rock intrusions right in the formation. These rock intrusions that I speak of are such as have produced the irregularity in this ore body in the upper levels of the Sunday Lake Mine.

Since the Finlay investigation the mine has been extended down

and we have opened up another level called the 21st. This extends about 100 feet below the 20th level. On this 21st level the ore is about the same in quantity as it was on the 20th level, but
136 the character of the ore shows increasing phosphorous. This increasing phosphorous reduces the price of ore and affects the value and its sale. This phorphorous also tends to change the character of the ore from Bessemer to non-Bessemer. The proportion of non-Bessemer ore to the Bessemer ore in this mine is increasing. The change in the character of the ore in the Sunday Lake Mine is similar to the change encountered in the Brotherton as the work approached the diorite dyke. In my judgment this change in the character of the ore indicates the approach of the dyke.

Q. Now, Mr. Munger, state whether or not in your opinion as a mining man the assumption of Mr. Finlay as to the probable extent in depth of that ore body was justified by anything contained in the indications at the mine or known in its surroundings?

Mr. O'Neill: I object to that as assuming the witness knows what the assumption of Mr. Finlay was as to the depth.

Mr. Belden: It is in evidence.

Mr. O'Neill: I think not.

Mr. Belden: Mr. Finlay's report was offered as Exhibit A in connection with the taking of this testimony. We will read Mr. Finlay's deposition as soon as we get through with the other witnesses.

Mr. O'Neill: We desire the same general objection and exception to this testimony.

The Court: Yes.

(Question read:)

A. I consider it is entirely unjustified and unreasonable.

Mr. Munger: In making the estimate which I returned to Mr. Finlay I tried to make a reasonable allowance for a calculation of the speculative probability of that ore body. I have had some experience in examining properties with reference to their value and making recommendations with reference to the value of iron ore properties. This experience I have had during the past ten years
137 on practically all the ranges of the Lake Superior district and on the Mesaba, Cayuna, Gogebic, Menominee and Marquette. In the course of the last ten years I have made quite a large number of such investigations and recommendations. As a result of this experience and my experience as a mining man, I think I can make an estimate that I would consider fair and reasonable as to the true cash value of this Sunday Lake property, based upon by knowledge of the tonnage.

Q. Now, referring to your estimate of the Sunday Lake mine made in 1911, including both the ore in sight and the probable tonnage to be obtained below the 20th level, I will ask you to state to this jury what in your opinion was the fair value of that property at that time and state how you reach your estimate of the value of the Sunday Lake property in 1911 at the time Mr. Finlay made his appraisal and when the State Tax Commission made this assessment?

A. I would consider the actual cash value at that time to be about $350,000.

Q. State to the jury approximately how you reached that conclusion.

A. If I were making an estimate for an investor I should figure what the ore was worth to an operating company, first figuring the tonnage and figuring the value per ton. I am somewhat familiar with the prices per ton of ore which have been paid on the Gogebic Range for ore in the ground, both in undeveloped properties and also in developed mines. The highest price per ton paid on the Gogebic Range for ore in the ground at a developed mine is eighty cents per ton at the Ashland Mine. At the time this amount was paid that was a developed mine and fully equipped and it had been shipping for a number of years. I knew of the conditions at this mine underground at the time the purchase was made, having been underground in it and having made estimates of the ore in the mine at that time.

138 There was a large tonnage in sight ready for mining. This ore was approximately of the same grade as the ore in the Sunday Lake Mine. The mining conditions in the Ashland Mine in my opinion allowed that ore to be mined considerably cheaper than we can mine the ore at the Sunday Lake Mine.

I did not have charge of paying the taxes on the Sunday Lake Mine in 1911, I had a copy of the tax bill, but the taxes were paid from the Cleveland office. I know approximately the amount that was paid. The tonnage on which Mr. Finlay based his calculation at the Sunday Lake Mine was 100,000 tons a year, as I understand it. Assuming that the Sunday Lake Mine produces the full 100,000 tons per year and assuming that the taxation was at the same rate as in 1911, the taxes upon the ore paid by the Sunday Lake Iron Company would be twenty-nine cents per ton, that is, including a one per cent collection fee paid as part of the taxes. The total amount was approximately 31,000 dollars. This would make a trifle over thirty cents per ton, but I think that in this total a small amount of taxes on some timber land was also included. The amount of tax per ton of ore, assuming that we produced 100,000 tons per year, would be approximately twenty-nine cents.

Mr. Belden: We now offer in evidence in connection with the testimony of this witness the record of a mining lease from George M. Wakefield to Joseph Sellwood and others, covering the west half of Section 10, Town 47 North, Range 45 West, recorded in liber 10 of deeds, page 81, of the records of the Register of Deeds for Gogebic County, which lease fixes the mining royalty to be paid as 25 cents per ton of ore. We also offer in evidence lease from George M. Wakefield to Joseph Sellwood and others, dated February 18, 1899. We offer in evidence from the records in the office of the Register of Deeds of Gogebic County the record of a mining lease from Gordon H. Gile and others to Joseph Sellwood covering the same property

139 but relating to a different undivided interest in it, which lease fixes a mining royalty of 15 cents per ton on the first 75,000 tons of ore mined and removed therefrom and 25 cents a ton on all ore mined thereafter, being the total royalty and not the roy-

alty for that particular interest, and in addition it provides for the payment of an additional amount according to a sliding scale based on the price of ore at Cleveland—recorded in liber 10 of deeds at page 65. I offer in evidence from the records in the office of the Register of Deeds of Gogebic County the record of an assignment of this lease from Joseph Sellwood and others to the Sunday Lake Iron Company, which assignment is recorded in Liber Y of deeds at page 504.

Mr. Munger. I cannot gave the exact figures or actual royalty paid by the Sunday Lake Iron Company to the fee owners under this sliding scale of prices for the year 1911, but it was in the neighborhood of 30 cents a ton. The taxes paid by the Sunday Lake Iron Company in 1911 substantially equalled the royalty paid to fee owners that year for the reason that we only shipped 86,000 tons and the taxes actually amounted to 33 cents a ton that year, so that the taxes on the ore shipped actually exceeded the amount of the royalty. If we had shipped the full amount as estimated by Mr. Finlay the price would have been approximately the same. The ore produced by the Sunday Lake Iron Company is consumed in the states adjoining the lower lake ports, such as New York, Pennsylvania and Ohio. None of the ore from the Sunday Lake Mine is, to my knowledge, consumed in Michigan. The office of the Sunday Lake Iron Company that deals in and handles the selling and disposition of the ore is located in Cleveland, Ohio. The business of handling and selling this ore is a separate and distinct one from the business of mining it at Wakefield, and operations are handled by diffierent individuals. The books are kept separate and distinct from our mining acounts in Wakefield.

140 Cross-examination.

By Mr. O'Neill:

There are 320 acres in the property of the Sunday Lake Mine. The dip of the ore is in a northerly direction. The developments on this property which have already been made and which I have referred to are located on the N½ of the SW¼ of the section in about the middle of the west side of the property. The dyke referred to pitches toward the east. The dip is the general dirction in which the formation tends. The ore bodies may dip to the north and pitch to the east, that is, they get deeper as they go east. On this range the pitch is easterly and the dip is northerly. The pitch of the ore body at the Sunday Lake is east and the dip is to the north. The mining operations are on the west side of the property.

Q. You have got the whole east side of the property for exploration and development and in which to follow the course of this body?

A. We have about 800 feet farther to go east in which to follow the course of this ore body, that is, on the property. We have not entirely the width of a forty. It extends some distance on to the east forty. From time to time in years past I have taken more or less interest in the assessments placed upon it. I have been informed

every year what the assessment placed on that property was. I have been particularly interested in this matter in recent years, referring particularly to the last two or three years. I was aware of the assessed valuation placed upon the property in 1911 by the local assessors and as I remember it, this was at $65,000. I think the property was in fact worth $350,000.

Q. And the Sunday Lake Iron Company knowingly and intentionally permitted property of the admitted value of $350,000 to be assessed at $65,000?

Mr. Belden: I object to that question as incompetent, ir-
141 relevant and immaterial, the assessment being made by the assessor and not by the Sunday Lake Iron Company and it not appearing that the Sunday Lake had anything whatever to do with the making of the assessment in 1911.

The Court: Take the answer.

Mr. Belden: Exception.

(Question read.)

A. They did, knowing that other property was assessed in approximately the same proportion.

Mr. Munger: I do not remember that I instructed or caused our local superintendent to go and object to the assessment of $65,000 in 1911. In 1911 Mr. C. E. Walton was superintendent of the Sunday Lake Mine. I do not think that he had any general position in 1911 of the mines of the company in Michigan; only the Wakefield Mines. He was designated as general superintendent of the Sunday Lake, Brotherton and Mikado Mines and held this position in and for several years prior to 1911 with entire charge of these properties locally. Pickands, Mather & Company were operating the Sunday Lake Iron Company.

Q. And Mr. Walton was an officer of the Sunday Lake Iron Company at that time?

A. Yes.

Mr. Andrews I object to that. I don't understand that to be true. Mr. Walton was simply an employe.

Mr. O'Neill: The witness says he was an officer.

Mr. Andrews: I don't understand that he says so.

A. I don't know what you call it. He was general superintendent.

Mr. O'Neill:

Q. General manager of the mine?

A. He was general superintendent.

Mr. Munger: The map which is on the board here is a map of the Sunday Lake Mine representing the conditions in that mine
142 as they existed in October, 1911—no, it is nearer this time. I am not positive as to the date, but there is a date marked on the map. In October, 1911, the shaft, and I believe, the crosscut towards the ore, was being driven at that time but it had not reached the ore. There were no developments below the 20th level

except that the shaft had been sunk into the footwall. The point which I indicate on the map represents the 20th level. The red on this map indicates the iron ore.

Q. As you go down the map gets pretty red, dosn't it?

A. It is red up here (indicating) but the ore has been mined out. On the 20th level the red marking terminates before it reaches the end of the map because at the east end of the 20th level the ore pinched out. There was a little stringer of ore at the east end of the 20th level and it also pinched out and this is now in hard, lean rock. At the east end of the 21st level going east we struck rock at approximately the same distance that we struck it on the 20th level. It has not been carried any further east at the present time. At the west end of the mine the coloring indicating iron ore is not completed because at the time that map was brought up to date or at the time it was made, we had not reached the west line with the drift on the 21st level. If that map was made up to date it would be marked red all the way through to the line. The distance from the east end of the ore body to the west end of the ore is about 1,500 feet. We consider the vein averages 10 feet in width and that it runs from 8 to 12 feet. It varies, pinches up in size and widens out. The number of cubic feet which constitute a ton of iron ore varies according to the density of the ore. This variation would be between 10 to 15 cubic feet. The clean ore in the Sunday Lake Mine such as was found on the 21st level would run about 10 cubic feet to the ton, but there are a great many places where the ore is more or less mixed and it would take more than 10 cubic feet. This is because considerable rock can be picked out of it.

143 Nearly all the ore in the Sunday Lake Mine is above the 21st level, practically all the ore in sight is above the 21st level. There is a little left above the 20th, but I could not say what amount; not very much. There is not half as much on the 20th as there is on the 21st. Furthermore, considerable has been mined out below the 20th at the ends of the deposit. Some ore is mined out at the ends below the 20th level. I would like to correct that and state that the ore has been mined out in drifts and subs below the 20th level.

In 1911 my estimate as to the amount of ore in sight above the 20th level was 150,000 tons and about 100,000 tons below it. This would make 250,000 tons in the mine in 1911 at the time the assessment was made. I think that the valuation of $350,000 on that amount of ore would be a fair, reaonable estimate. I heard most of Mr. Crowell's testimony and I heard him testify that at that time according to his information and in his opinion there were about 200,000 tons above that level and that he would estimate about 200,000 tons below that level. I think that Mr. Crowell was over liberal in the matter of estimate. If Mr. Crowell's estimate is correct, it would materially increase the value of this property in 1911 from the figure that I placed upon it. I think it is safe to estimate the depth of another level below the 21st level in estimating the probable ore. This would make another 150,000 tons if it all turned out to be ore. It turned out that Mr. Crowell's estimate of 200,000 tons below

the 20th level in 1911 was very conservative as indicated by the later developments.

Q. And your estimate was extremely conservative, isn't that a fact?

A. You cannot see very far into the future. Mr. Finlay estimated 1,500,000 tons. That may look different in 10 years.

144 Q. The estimate that you made in 1911 of 100,000 tons, that would be encountered below the 20th level, you would say now that it should be 300,000 tons according to your own theory of estimating, wouldn't you?

A. It will probably work out that way. In about two years developments have shown that there was at least three times as much ore below the 20th level as we thought there was in 1911. We are not sure yet that the ore is going to extend 100 feet below the 21st level. There is always an element of uncertainty in most things. In the case of a farm there is a certain amount of uncertainty and you can see the ground. I could not tell by looking at a piece of ground exactly how much that ground would produce in vegetables or fruit. I think lots of people could do this. I think most farmers would claim that they could tell approximately by looking at an acre of ground how much wheat it would produce in a year or in a number of years. I am not a farmer and I cannot tell what things have to be taken into consideration when estimating the product of land. Year after year for a term of years I believe a farm would average about even. There are unforeseen contingencies that affect the value of land the same as anything else. It is more or less a matter of opinion. Mr. Finlay estimated the ore in the Sunday Lake Mine at approximately 1,500,000 tons, and I should say there has been already shown according to our estimate 400,000 tons.

Q. 400,000 tons anyhow?

A. Yes.

The Court: When was Mr. Finlay's estimate made?

Mr. Belden: From about the first of June to the last of August, 1911.

The Court: Between June and August, 1911?

Mr. Belden: Yes, in those three months.

Mr. Munger: If the 250,000 tons which I estimated was in the mine in 1911 was worth $350,000, the mine would be worth possibly $450,000 if there were 300,000 tons of iron ore there.

145 Q. Now, if Mr. Crowell's testimony was correct with reference to the amount of ore above the 20th level in 1911—200,000 tons and the amount of ore between the 20th and 21st levels is 200,000 tons, and add to that the amount of ore that you say is below the 21st level, that would make 550,000 tons, wouldn't it?

A. You can figure it.

Q. If there was 400,000 tons in the mine and it was worth $350,000, how much would the mine be worth if there was 550,000 tons?

A. I suppose in the same proportion, less the discount.

Q. It would be worth approximately $600,000, wouldn't it?

A. No, it wouldn't. It would take a long time to get that ore out and the present value doesn't amount to the full amount as you have figured.

Q. You have equipment there and it could be hoisted with the same equipment?

A. Yes.

This would have some bearing upon the value of the ore so far as it goes. It might be worth $550,000. I do not consider that it has been demonstrated that in 1911 the Sunday Lake Mine was worth $550,000. Part of Mr. Crowell's testimony includes an estimate of ore that we do not know anything about. It may be there and it may not.

Q. Assuming that Mr. Crowell's testimony was correct; the mine in 1911, as has been absolutely demonstrated, was worth $550,000?

Mr. Andrews: I object to that. The witness says it has not been demonstrated.

Mr. O'Neill:

Q. Assuming that Mr. Crowell's testimony was correct?

The Court: Take the answer.

A. Well, I don't consider it has been demonstrated.

146 Mr. Munger (continuing): Part of Mr. Crowell's testimony is based on what he can not see; it is a guess. Providing the market holds up and we do not get any cut in prices and allowing a reasonable discount, perhaps the ore might be worth $550,000 according to our own theory. I believe the mine was assessed in 1911 for $65,000. I am not positive about the amount previous to that. I do not remember that it had been assessed for more than that prior to 1911. I do not know as a matter of fact that the Sunday Lake property was never assessed for more than $65,000 before 1911. I have an idea that at one time it was assessed in the neighborhood of $80,000 or $90,000, but I am not positive. I do not remember when it was assessed at $40,000. We could not see the ore which was in the mine in those days before it had been taken out. We know it now. We paid as much taxes in proportion as other property was paying.

Q. In other words, you satisfied your conscience by saying that the other fellow didn't pay his taxes either?

Mr. Andrews: I object to that as incompetent, irrelevant and immaterial.

Mr. Belden: And for the further reason that the tax law provides expressly that assessment shall be made on a basis which is relatively just and equal.

Mr. O'Neill: The tax law provides that property shall be assessed at true cash value.

Mr. Belden: It also provides that assessments shall be relatively just and equal.

The Court: We will not pass on the legal question now.

Mr. Munger: Referring to the map of the Brotherton, the dyke at the 21st level of that property dips south and pitches to the east. I do not know what the angle of the dyke is at this point but I should guess it was about 55 degrees. It is 500 feet from that dyke on the 20th level to the boundary between the Sunday Lake
147 and Brotherton properties. I do not know how far into the earth this dyke would have to go at an angle of 55 degrees before it would travel 500 feet towards the Sunday Lake property. I could figure it out if I had the time and the instruments. I could not say how far this would be. It would not by any means be several thousand feet. It would be several hundred feet. I am not an engineer but it does not take an engineer to tell that. I cannot figure out how far that dyke would have to descend into the earth to traverse a distance of 500 feet laterally. The ore body in the Brotherton was underlaid by a dyke all the way down. The quality of the ore in the Brotherton was as good as the quality of the ore in the Sunday Lake until we approached the dyke. The dyke underlaid the entire ore body but at some distance from the dyke the ore was not affected by the additional phosphorous.

Q. Did you hear Dr. Leith's testimony to the effect that the quality of the ore had no significance whatever as indicating anything with reference to an ore body or a dyke?

Mr. Andrews: We object to that as incompetent, irrelevant and immaterial. The question is did he hear Dr. Leith's testimony; we are not bound by Dr. Leith's testimony in that respect.

The Court: Take the answer.

Mr. O'Neill: He was your witness.

A. I don't remember that he said that. If he did, we know from experience that that is untrue in this case.

Q. That is in the case of the Brotherton?

A. Yes.

Our estimates in the Sunday Lake Mine have disclosed that there is a great deal more ore there than we ever thought of. We could not see all the ore. We always go by what we can see.

Q. How much ore have you shipped from the Sunday Lake Mine since the present management took control about 6 years ago?

148 Mr. Andrews: We object to that as incompetent, irrelevant and immaterial.

The Court: Take the answer.

Mr. Andrews: Exception.

A. I don't know the exact figures; somewhere I should say, between 600,000 and 700,000 tons; that is approximately it.

Mr. Munger: I do not think that there is more ore in sight now

than there ever was. I think about the same amount is now in sight as there has been for the last two or three years. I do not know what the assessment was on this mine six years ago. It is entirely a matter of conjecture why shipments would not be as great during the next six years if market conditions are equally favorable. I would not think that conditions and indications are just as favorable now as they were six years ago on this property because of the expected approach of that dyke. The near approach of that dyke is all that I can see. It is perfectly reasonable to expect rock intrusions in that formation. I do not know whether we can ship in the next six years 600,000 or 700,000 tons or that indications will be just as good then as they are now. Assuming that we repeat the history of the past six years and assuming Finlay's estimate to be correct, that would be true but you cannot figure the future six years from the past six years. Certainly if you duplicate the past six years the future six years would show a like amount.

Q. If you do ship 600,000 or 700,000 tons between now and then and after you take it out you have conditions equally as favorable as they are now, what would your mine be worth?

Mr. Belden: That is objected to as incompetent, irrelevant and immaterial. The whole thing is based on two assumptions.

The Court: Take the answer.

149 Mr. Belden: Exception.

A. I don't know.

Mr. O'Neill:

Q. It is getting up in pretty big figures?

A. Yes, you are getting up into big figures. We don't know whether the United States will be a government in six years from now. Maybe the Japs will have us by that time.

Q. It is the uncertainty of the stability of the government——

A. Not entirely. That is one thing.

Mr. Munger: I was present at the meeting of the Board of State Tax Commissioners held in October, 1911, and Mr. Belden was present there as attorney for the Sunday Lake Iron Company. He presented a complaint to that Board which I signed. I believe the complaint presented there on behalf of the company stated that their property was assessed at not to exceed 1/3 of its true cash value. The statement, however, speaks for itself. I do not remember the entire wording of that complaint. The Sunday Lake Iron Company was assessed for more than 1/10 of what I considered its true cash value at that time.

Q. Developments since have disclosed that your judgment as to the value of the mine was erroneous, isn't that a fact?

A. The assessment was made in 1911 and that is the time we were dealing with. That is the time the assessment was made. I would like to say in regard to the Mikado Mine that I think my estimate is all the Mikado was worth at that time, and it is not worth any more today than it was then.

In 1911 we shipped from Sunday Lake Mine approximately

86,000 tons, as I remember it. I could not tell how much we shipped in 1912 without looking up the records, but we shipped more than 86,000 tons. I do not have anything to do with the making of the contracts for the sale of the ore. I knew that contracts had been made early in the spring, in the month of March. I do not know how much the contracts called for, but we shipped 86,000 tons.

Q. And your whole mine was not assessed for the value
150 of the shipment of that year—one year's shipment—or was it assessed for more than one-half the value of one year's shipment?

A. A little more than one-half—when you talk about values.

Q. And the next year you shipped even more?

A. We shipped more in 1912. In 1913 we hope to ship some more. We have not made any calculation for the shipment of considerable ore for a number of years to come from that mine. We expect to ship as long as we can mine it there and sell it. We haven't made any improvements for several years. I do not remember anything in the way of equipment except a change house which we built there five years ago.

I aided in the making up of Exhibit 5 in regard to the tonnage and analyses. Before making up that statement I did not consult Mr. Crowell. The Sunday Lake and Brotherton Mines are operated indirectly by Pickands, Mather & Company. Pickands, Mather & Company are the real parties in interest in those mines, especially in the operation of them and the payment of the taxes. The iron ore formation is located also to the west of the Sunday Lake and Brotherton Mines and not directly south that I know of. Mining operations have been carried on in the formation to the west on the Brotherton and Sunday Lake. Very little ore has been shipped from those properties until we get to the Mikado. Pickands, Mather & Company worked the Pike Mine at a loss for a time and then surrendered the lease.

Q. That is, it had no value as a mine because it did not pay? The profits determine the value of a mine.

A. Nobody would care to work a mine unless there was profit in it. This is the purpose of working it. The width of the vein at the 20th level in the Sunday Lake Mine is about the same average that I gave before and I do not think it would average more than 10 feet for the entire length of the property. The vein on
151 the Brotherton side at the narrowest point is about a drift wide. The vein on the Sunday Lake above the 20th level has averaged practically the same and there has been very little change. The minimum width of that vein at any point has been from nothing or a foot or two up to fifteen feet and as much as 20 feet in some places. In certain places it swells out for a short distance. The pinching out of a vein does not necessarily indicate anything. It is just one of the natural conditions that we expect. There was a place in the Brotherton Mine on the 20th level where the vein was as wide as 80 feet for a short distance. The vein spreads out and narrows up and then spreads out again. On the Sunday Lake also it varies in width. It is not the same width all the distance.

I never lived in Wakefield but I have lived in Gogebic County. The village of Wakefield grew up around and because of the Sunday Lake and Brotherton Mines, also around and because of the Pike and Chicago, but largely because of the Sunday Lake and Brotherton—they having been the principal mines there. The Sunday Lake and the Brotherton are the principal mines there. The village of Wakefield, and to a great extent the population of the township depends largely upon these two mines and a great many houses have been built because of the fact that those mines were there. Business men have engaged in the village of Wakefield and in the township because of this fact. It is true I believe that the Wakefield Store Company, the People's Store Company and the Ringsmuth property have engaged in business on account of this fact.

Q. And it is true now that those people who live in the village of Wakefield and a great proportion of those who live in the township depend upon those who are employed in those mines.

Mr. Andrews: I object to that as incompetent, irrelevant and immaterial.

152 The Court: Take the answer.

Mr. Andrews: I except.

A. I think there are more people depending on the other interests around there; farming and lumbering.

Mr. O'Neill:

Q. What?

A. They depend on farming and lumbering and the Castile mine which has been developed.

Q. How many people do you know depending on farming and lumbering?

Mr. Andrews: Same objection.

The Court: Same ruling.

Mr. Andrews: Exception.

A. I don't know how many.

Mr. O'Neill:

Q. The discovery of a body of ore in the vicinity of Wakefield or in the vicinity of any village or community of people would enhance the value of property—a valuable mine that would employ large numbers of people?

Mr. Andrews: We object to that as incompetent, irrelevant and immeterial.

The Court: Take the answer.

Mr. Andrews: I except.

A. It is necessary to have places for people to live.

Mr. O'Neill:

Q. It would enchance the value of property, wouldn't it?

A. Yes, slightly.

Q. If an ore body was discovered which was supposed to be of

very limited proportions it would not probably have much effect in enhancing the value of property?

Mr. Andrews: Same objection.
The Court: Same ruling.
Mr. Andrews: Exception.

A. Do you speak of enhancing the value of the district?
Q. No, property immediately in the vicinity of the place where the ore was discovered?

Mr. Munger:

153 A. Yes, property immediately in the vicinity of a place where ore was discovered will be enhanced in value. If it was a small deposit it probably would not enhance the value of property very much.

I cannot tell just when I received the first information as to the result of the Finlay appraisal. The first information I had I received through a newspaper some time prior to the October meeting in 1911. I did not consider the information which I had in my possession when I attended the meet- here in October, 1911, very full information as to the result of the Finlay appraisal. The attorney for the company also appeared with me and I believe our general superintendent was here. Some of the parties in attendance there representing this plaintiff were more or less familiar with the report but I do not know to what extent. The State Board of Tax Commissioners at October 2, 1911, had not to my knowledge taken an yaction to change the valuation that had been placed upon this property by the local assessing officer and the reviewing board.

Q. Did you anticipate that when the State employed a man to make an examination of the Sunday Lake mine some important facts were going to be disclosed that had not been heretofore disclosed to the assessing officers or board of review?

Mr. Belden: We object to that as incompetent and improper.
The Court: Take the answer.
Mr. Belden: Exception.

A. I didn't know very much about it, what he was going to do.
Q. You didn't know what they were going to do?
A. No.
Q. But you were there with a protest to prevent them from doing it if you could?
A. Yes, we didn't want an unreasonable assessment.

154 I expected that after a man had been employed by the state and he had looked into the mine and given the information to the State Board of Tax Commissioners, that Board was very apt to do something.

Q. You had good reason to believe that they would do about what they did do, did you not. and that is the reason you went there?

A. I think we had some idea of what they proposed to do. We had some partial reports from the newspapers as to what Mr. Finlay

found and on the strength of that we thought the Board might do something. They were not appointed to reduce the valuation and we did not expect that the Board would reduce the valuation of the mines. I do not know whether our company employed Mr. Belden, who is here as one of the attorneys in this case, to appear on behalf of the plaintiff in this case before the State Board of Equalization in 1911 and the State Board of Assessors. I do not know that he appeared for this company before those boards. I am not positive that Mr. Belden as attorney for the Sunday Lake Iron Company had Mr. Finlay's report in full before it was printed and bound in October. I do not think he had it in full, but he had a part of it. During some of the time that the Sunday Lake Iron Company operated the Sunday Lake Mine, its superintendent, Mr. C. E. Walton, was the assessing officer of the township of Wakefield for some time; I do not remember how many terms. I believe he was supervisor one term but I do not know whether he was a member of the Board of Review in addition to supervisor. I do not know what assessment was placed upon this property in 1907 and I have forgotten the amount for 1908, 1909 and 1910. During the year Mr. Walton was superintendent he had charge of that matter and looked after those assessments. That was part of his duty as general superintendent. The local office at Wakefield of the Sunday Lake and Brotherton Mines was in the same building, and Mr. Walton's office was also in this building. I think that the room de-
155 scribed by Mr. Simonson as the room in which certain assessment rolls of the township were kept by Mr. Walton was used by him as his office as superintendent. I do not know whether the assessment rolls were there or not but he had his office as superintendent in this building.

JOHN M. BUSH, a witness produced, sworn, and examined on behalf of the plaintiff, testified as follows:

Direct examination by Mr. Belden:

I reside at Iron River, Michigan. I resided in Gogebic County from 1907 until January, 1913, being during that time superintendent of the Ashland mine operated by the Cleveland-Cliffs Iron Company. In one capacity or another, I have been connected with the mining of iron ore about eighteen years. Before going to the Ashland Mine, I had charge of the Crosby Mine located at Nashwauk, Minn., on the Mesaba Range; this was both an underground and open pit mine. Since the Cleveland-Cliffs Iron Company gave up the Ashland Mine I have been in charge of that company's operations in Iron County, Michigan.

I know where the Sunday Lake Mine is situated and the kind of ore that comes out of it; I have been over there, but have never been in the mine. I am familiar with mining operations generally in Gogebic County; I am also somewhat familiar with the values of mining properties in that county and the values of properties like iron mines.

Q. Now, Mr. Bush, assuming that the Sunday Lake mine had

in 1911 approximately 150,000 tons of iron ore in sight above the bottom level, this ore being located chiefly or entirely on the 18th, 19th and 20th levels of the mine, and assume further that it was reasonable to assume, based upon all the indications in the mine and all the data which experience had shown, that that ore would extend down one more level, adding approximately 100,000
156 tons to the estimated ore in sight; what, in your opinion, would be the fair value of that property in 1911?

Mr. O'Neill: That is objected to as incompetent, irrelevant and immaterial and not based upon any facts in evidence, and assuming facts to exist which have not been proven and which have in fact been disproven, as shown by the evidence already introduced by the plaintiff.

The Court: Take the answer.

Mr. O'Neill: Exception.

Mr. Bush:

A. In my opinion, the value of that 250,000 tons would be approximately $200,000. I based that on our experience at the Ashland Mine, where we had a very high rate of royalty. We had a power plant and a shaft and drifts open. We took over a developed mine. We felt that we were able to pay a price of 80 cents a ton for the ore. The rate of royalty paid the fee owner of the Ashland Mine was approximately 80 cents a ton. This property was taken over as a developed mine in 1901 by the Cleveland-Cliffs Iron Company from the Hayes Mining Company. Of this royalty 50 cents went to the Hayes Mining Company and the balance to the fee owners of the mine. The fee owners' portion was approximately 30 cents; it was a sliding scale and might vary a few cents either way according to the selling price of the ore. At the time the Hayes Mining Company turned that property over to the Cleveland-Cliffs Iron Company, an additional amount of approximately 50 cents a ton was included in that sub-lease. It was a developed mine when the Hayes Mining Company turned it over to the Cleveland-Cliffs Iron Company; at that time it was equipped with a power plant and everything necessary to operate it as a working, going mine. As compared with other royalties paid for similar ore in Gogebic County this 80 cents royalty is the highest rate of royalty of
157 any mine on the Gogebic Range. In making my estimate of the Sunday Lake mine I am applying the highest rate of royalty known in the County.

Q. State whether or not, in your opinion, the estimate you place on this mine represents the fair, true value of the ore in the ground in that property?

Mr. O'Neill: I object to that as incompetent, irrelevant and immaterial. No proper foundation has been laid and it is not shown that the witness is competent to testify.

The Court: Take the answer.

Mr. O'Neill: Exception.

A. In my opinion, it does.

Mr. Bush: I was a member of the Board of Supervisors of Gogebic County from 1908 until the winter of 1913. In that connection I had opportunity to become familiar with assessments of iron mines and other property generally throughout Gogebic County and Wakefield Township. Such property in Gogebic County generally was assessed at less than its true cash value; that was the condition throughout the county.

Q. State whether or not that fact was generally known or understood throughout the county?

Mr. O'Neill: That is objected to as incompetent, irrelevant and immaterial. It is not shown that the witness is competent to testify or that he knows what was generally understood throughout the county with reference to the assessed valuation of property in the county.

Mr. Belden: I am asking him if he knows about the common understanding with reference to this matter.

Mr. O'Neill: And for the further reason that it has no bearing upon any knowledge that the State Board of Tax Commissioners may have had with reference to the assessed valuation of property generally throughout the county.

The Court: Take the answer.

158 Mr. O'Neill: Exception.

(Question read.)

A. It was.

Q. State whether or not this general understanding which you have testified that you knew of that property in the county was under-assessed applied to Wakefield township in connection with the rest of the county?

A. Yes, sir.

Q. Do you yourself know what the iron mines, or a good many of them, were assessed for in this county by the local assessing officers in the spring of 1911 and prior to that time for several years.

A. Yes, sir. At that time I knew the specific amounts put on numerous of the iron mines; I don't recall the figures now; I don't recall the amount assessed against the Sunday Lake property.

Q. I will ask you to state whether or not the assessments of these mines were, generally speaking, relatively equal prior to that time even though less than their true value as compared with other properties and compared with each other?

A. Yes, sir, they were.

Cross-examination.

By Mr. O'Neill:

I am employed by the Cleveland-Cliffs Iron Company. Mr. Belden is also employed by that company and has been for a number of years. I was a member of the Board of Supervisors of this county for a number of years and up until the first of this month. This Board in October of each year, under the statute, equalizes between the different townships and cities of the county.

Q. The Board of Supervisors as constituted for years past has

been composed mostly of superintendents and employes holding positions of more or less importance with the mining companies of Gogebic county.

A. There have been such members on the board.

159 Q. In fact, a majority of the members of the board have been such persons, have they not?

A. I don't know; I don't remember just what the proportion is. The mining companies in Gogebic County are comparatively speaking large tax payers. At present are larger tax payers than they were two years ago. Being larger tax payers they felt that they had an interest in the conducting of the affairs of the county, in seeing that the affairs of the county were conducted properly. I don't know as the mining companies have taken any great interest in the personnel of the Board of Supervisors of Gogebic County. The local officials naturally have been interested in it, with the view of seeing that things were properly conducted and the public moneys properly expended and with the view of putting themselves in a position where they could determine what was and what was not proper.

Q. Isn't it a fact that for years past, to your knowledge, there has been a tacit understanding at least, if not an agreement, between the various mining companies operating in Gogebic County as to how the assessment rolls should be made up and especially with reference to the valuation of mining property?

A. No, sir, I know of no understanding. Not to my knowledge in Gogebic County. In the city of Ironwood they used to kind of get together on the assessments. I don't know anything about the rest of the county.

Q. You think that the rest of the county wasn't in on that agreement, parties to it?

A. Not to my knowledge.

The equalization made by the Board of Supervisors in October each year, equalizing between the various townships and cities in the county, would affect the amount of state tax that any particular township or city would pay; so if the assessed valuation of the property generally was raised in one township it would necessarily affect the amount of state tax that that property would pay, but it would finally be determined by the equalized valuation placed upon

160 that particular township by the Board of Supervisors at its annual October meeting.

In placing a valuation of $200,000 upon the 250,000 tons of ore referred to in my direct examination, I took into consideration the royalty of 80 cents paid by the Ashland Mine; I figured that royalty as the amount paid for the ore.

Q. What would that ore be worth to the fee owner in a mine under the conditions indicated in the question given you, assuming that he paid no royalty.

A. Whatever the royalty on that particular property was worth; probably about 25 cents or 30 cents a ton.

Q. What would 200,000 tons of ore in a developed mine in Go-

gebic County, properly equipped with hoisting machinery and facilities for handling that ore, be worth to the fee owner of the mine?

A. If I owned it, it would be worth $200,000.

I know Mr. Munger, he is the general manager of the Sunday Lake Iron Company.

Q. If Mr. Munger should say that 250,000 tons or ore in the Sunday Lake mine where they are paying a royalty of 25 cents a ton is worth to that company $350,000, would you say that Mr. Munger's judgment was erroneous?

A. I wouldn't have anything to say about it.

Q. What would you think about it?

A. I wouldn't think anything about it.

Q. There would be a great discrepancy?

A. One figure would be his opinion and the other would be mine.

Q. It is a very wide discrepancy and if you were right what would you say as to Mr. Munger being competent to act as general manager of that mine?

A. I wouldn't say anything.

Q. Do you think that ore in the ground, Mr. Bush, is worth just as much to a person or corporation that has to pay 80 cents a ton royalty as it is to a man who would have to pay no royalty?

161 A. I don't just understand.

Mr. Belden: I object to that question as misleading, and further, it is incompetent as bearing upon the question of taxation because the question of taxation turns upon the value of the property and not upon the profit that the operator makes out of it.

The Court: But it does include all the value of the property and not simply the value to the operator.

Mr. Belden: Certainly, it includes the value of the property.

The Court: Take the answer.

A. The amount I would feel I could afford to pay for a certain body of ore in a mine would be governed more or less by the amount of royalty I would have to pay in addition to the price per ton.

In referring to this item of $200,000 I figured that ore is worth 80 cents a ton in the mine; that I could afford to pay 80 cents a ton for it, whether it is royalty or whatever you want to call it. In my opinion, 80 cents a ton is the value of Bessemer ore in a developed mine in Gogebic County. I have never sold any ore. I don't re-call just what price obtained generally in 1911 for Bessemer ores produced in Gogebic County delivered in Ohio.

Q. Would it make any difference according to the way you compute the value of ore?

A. Certainly, it would all depend on the selling price.

Q. I thought you determined the value of the ore by the royalty paid; isn't that a fact?

A. On the present price of ore you could afford to pay 80 cents a ton for it and make some money.

I couldn't afford to pay more than 80 cents a ton for it; if I did I wouldn't make enough money. The difference between market price of iron ore and the cost of production varies with different

properties. The cost of production at different properties would vary.

162 Q. Would the difference between market price and the cost of production—when I say cost of production, I mean all cost from mining the ore to delivering it to the purchaser at the ore market—would the difference between the market price and the cost of production measure the value of a ton of ore.

A. It would to a great extent. It would not absolutely to a mathematical certainty. There are other factors that enter into it; the particular character of the ore and matters of that kind. That would not necessarily be taken into consideration in the market price. The difference between the market value of the ore and the cost of production does not necessarily measure the value of the ore.

Q. In what respect would it not?

A. For instance, in the character of the ore. Certain ore may command a better market; not necessarily a better price, but the furnace men might desire that particular character of ore.

Q. It would merely affect the market, wouldn't it?

A. It might not affect the market price.

Q. Is the price of iron ore regulated by the law of supply and demand?

A. Yes.

Q. So it would in fact merely affect the market—the grade of the ore and the demand for it?

A. Not necessarily affect the price.

Q. Why?

A. Different characters of ore will bring the same price on the market but one ore would be a littel more desirable than the other. It would be more desirable for some particular furnace or furnaces.

Q. Wouldn't that demand affect the market value?

A. Not necessarily. I am not prepared to answer that because I never sold any ore.

Q. You have assumed to testify to the value of ore?

A. I know there have been cases where ore has been taken on that basis.

Q. So far as that is concerned then you are not really prepared to answer the questions?

A. I am not.

163 Q. That is an element that was not taken into consideration in your former answer; that is, your opinion as to the value of a ton of ore in the mine; is that a fact

A. I have based my opinion on the value of the ore in question on what we have been actually paying for ore in the Ashland mine during the last 10 or 11 years.

The Cleveland-Cliffs Iron Company took that lease in 1901. That is what we paid for the ore in the mine. Ore in an undeveloped mine is not worth as much as that in a developed mine. I don't know if there was any bonus paid in addition to the royalty at the time of the purchase. The royalty on an undeveloped property or a property partially developed would represent the value of the ore

to the fee owner; after it was developed, that same ore might be worth a great deal more money.

Q. Or, we will say, a man owns an unimproved lot in the outskirts of town and it is worth $100. He builds a home on the lot and spends $1,000 *dollars* on the lot—he develops it; that lot is worth more money?

A. Yes.

Q. And you as a member of the board of supervisors for 7 years know that because of the enhanced value resulting from the improvements on that property the owner of that lot would be required to pay a great deal more taxes, wouldn't he?

A. Yes.

I know that the tax law applies the same to corporations as to the man who owns a little lot on the outskirts of the town. So that the ore in the Ashland mine may have been worth 80 cents twelve years ago and subsequent developments may have made it worth more or certain conditions may have arisen which made it worth less. That price would at all times have a bearing upon the value of the ores. Any time we thought it wasn't worth 80 cents we could relinquish it. We had a provision in the lease that we could relinquish the same at any time for any reason upon a certain number of days' notice. The lease was so drawn that we could
164 relinquish it at any time. If the value of the ore went down, we could relinquish it; if it went up, we could hold it. There might be conditions where a fee owner of a mine may not care to or could not operate the mine. The ore in a mine might be worth more to one man or corporation than to another, depending upon what they wanted to do with it.

Q. If the general superintendent of a mining company said that the property was worth $350,000, and as a member of the county board you found on the roll that the property was assessed at $65,000 and other mining property in that vicinity was assessed in a similar manner with reference to cash value, as admitted by the general superintendent of the mine; would you be inclined as a member of the board of supervisors in equalizing the assessment of that township to raise its value?

A. Yes, sir.

Q. You would think that that was hardly fair to assess property of an admitted valuation of $350,000 at $65,000?

A. No, sir.

Q. That would be out of all proportion to anything that you ever heard of around this country, would it?

A. Yes, sir.

Q. Do you know of some other mining companies where there was a large difference between the actual value and the assessed value?

A. I think they were all that way; a large number of them anyway.

I did not, as an officer of the Cleveland-Cliffs Iron Company, call that fact to the attention of the city assessor of Ironwood during 1911 or any previous years. I have no knowledge with reference

to assessments in Iron County. I have just gone down there. I don't know whether the board of equalization increased the valuations. I have no knowledge as to the action of the Board of State Tax Commissioners in 1911 with reference to raising other
165 counties than Gogebic County, except the general understanding that all mining counties were raised. I don't know that all counties throughout the state were raised.

I knew C. E. Walton, who was superintendent of the Sunday Lake mine up until the time of his death in 1911 or 1912; he served with me on the Board of Supervisors of this county for one or two years and while he was superintendent of that mine.

Q. This system of valuing the mining properties that you have referred to with reference to the actual value and the assessed value extended back over a period of years to your knowledge?

A. The only place with which I am familiar is the City of Ironwood and that did extend over a number of years, back in 1911, 1910, 1909, 1908 and 1907.

I have no knowledge of the relative valuations placed upon mining properties in the City of Bessemer with reference to the assessed valuation and the actual valuation, except that there was a general understanding that they were all assessed lower than the actual value. It is not true that at assessment time the mining companies claimed that the mines were played out. That has not, to my knowledge, been a common understanding in Gogebic County for years.

Q. That there is a material depreciation in the value of the mines in this county along in April every year? Don't you know of some mines regarding which that has been particularly true in years past?

A. Not to my knowledge.

Q. Mining men, however, for the purpose of taxation at least, are very conservative in estimating the amount of ore in a mine; they are inclined to be conservative in estimating the amount of ore for the purposes of taxation?

A. Up to the time that the tax commission valued the mines I don't know whether any statements were ever made as to the amount of ore in the mines.

166 In my references to the local officers of certain mining companies I meant the superintendents in charge of the mine and the assistant superintendents.

Redirect examination.

By Mr. Belden:

In placing my estimate of value on this mine I based it upon the selling value of property in this county as I know it and as I judge its value to be.

In the things to be considered in viewing a property from an operating standpoint, is the providing of working capital; you must also have an organization to prosecute your mining work, including skilled mining engineers and administrative and executive officers. It depends to a very great extent upon the skill and ability of the operators as to whether any profit will accrue; and because of differ-

ence in management, ore in one mine is produced at a less cost than ore in another mine under the same circumstances. In addition to the work of managing and operating the mine, it is also necessary to provide an organization for selling the ore and dealing in the ore; so far as our company was concerned, this work of dealing in and selling the ore is not done in Gogebic County but elsewhere. This work of selling the ore and dealing in it and handling it is separate from the work of mining. The net profit which Mr. O'Neill has referred to as the difference between the selling price at lower lake ports and the cost of production represents the profit of all these operations, including the mining of ore, the handling of it and dealing in it and selling it. The quantity of ore in the Sunday Lake mine, for example, below the bottom level cannot be estimated for certainty; such quantity is always uncertain. Risks and hazards attend the operation of any mine; you are liable to encounter large flows of water that will be expensive; there will be accidents in the mine, such
167 as cave-ins which will be very expensive to clean out; breakdowns of machinery which tie up operations and mean loss of money. This increases the cost of production and therefore decreases the profit to be derived from the ore. In the development of a mine there is also expense involved in working through rock, as dead work; we always carry on a certain amount of exploratory and rock work looking for other ore bodies. This is included in estimating the cost. There are also the risks and uncertainties as to the extent of ore bodies shown up by the drilling; you don't find the amount of ore you were led to believe was there based on the drilling.

Any estimate of the profits of a mine which may be derived from the operation thereof and the handling and selling of the ore, which does not take into consideration these risks and uncertainties, is not reliable. Any fair, reasonable conservative estimate of profits must make allowance for all of these things. It is usual and customary for mining men in purchasing properties to make such allowance and take such things into consideration in determining the value of properties.

Mining is the principal industry of Gogebic County; a greater proportion of its population is interested in ore mining than any other industry in the county. Such other industries are lumbering and farming.

During the years I have mentioned the Board of Supervisors contained members who were connected with or representative of both lumber and farming industries of Gogebic County, and also of the citizens of the towns in that county.

Q. You were asked if it was the purpose of the mining men to put themselves in a position so that they could determine what was or was not proper in the way of public expenditures? I will ask you to state whether or not the mining men on this board were
168 interested in public affairs and public works and the development of this county?

A. They were.

Among the public works they have authorized and carried out was the adoption of the county road system and the building of the

county infirmary; I think about $300,000 was appropriated for county road purposes. Mining men and representatives of the mining industry have always been interested in the welfare of the public schools and in putting up amply sufficient and adequate buildings for that purpose. This is generally true throughout the county as to their connection with public affairs.

Recross-examination.

By Mr. O'Neill:

Q. You have stated some of the hazards of the mining business and some of the considerations that make for the success or failure of the mining business; in a general way, those very same considerations determine the success or failure of any business? In other words, the hazards of fire and water, the market price of their product, the selling of it, the ability of their sales agents, the ability to collect, and really, everything that makes for the success or failure of a mine applies to any business?

A. Yes.

Q. Profits in a general way are determined in exactly the same manner?

A. I should think so.

Q. Take the stock in a grocery store; if it is properly managed it is of more value than an equal stock in another store that is improperly managed?

A. I think the hazards in the mining business are greater than in almost any other business.

169 The greatest hazards in mining are those that I have mentioned; accidents in the mine, falling ground, and large flows of water. They also have fires in mines; and after a fire the mine must be re-timbered and re-built the same as a building that has burned down.

You can drive across Gogebic County with a horse and wagon; that has been true since I have been in the county.

Q. Which way?

A. Do you mean across the county?

Q. Yes.

A. I will correct that, no, there is no county road now; they are building that now.

C. H. MUNGER recalled for further examination, testified as follows:

Cross-examination.

By Mr. O'Neill:

I don't remember that I conferred with Mr. Belden with reference to making an objection at the meeting of the State Board of Tax Commissioners held in October, 1911, prior to his arrival at Bessemer on that date. As general manager of the company I had for some time heard rumors in that matter that interested me. I don't remember that I had taken the matter up with the other

officers of his company and Pickands, Mather & Company; I probably had for some considerable time prior to that, and I believe that at that time I anticipated an increase in the valuation of this mine by the State Board of Tax Commissioners. I don't remember the exact time, but I would say that this was true for at least the two or three months preceding this meeting of that board. I had communicated with Mr. Walton, our local superintendent, on this subject some two or three months before October, 2, 1911. I believe
Mr. Walton was living at that time; he was looking after the
170 local matters with reference to the assessment and taxation of that property.

Redirect examination.

By Mr. Belden:

Prior to the meeting of the State Board of Equalization at Lansing the latter part of August, 1911, I had no knowledge or information directly or indirectly as to the conclusion Mr. Finlay had reached with reference to the value of any of these mines. As I remember it all the newspapers purported to give was fragmentary references to the Finlay report.

I remember coming here to the meeting of the State Board on October 2, 1911; prior to that time the State Tax Commission had served notice upon our company directing it to appear here and we appeared in compliance with that order. I don't think I had any conference with Mr. Belden on this subject prior to my meeting him here on October 2, 1911; I don't remember any; I don't know of any other time prior to that, that Mr. Belden had been called upon to represent Pickands, Mather & Company. Previous to that time Mr. O'Neill, defendant's attorney, acted as attorney for Pickands, Mather & Company and the Sunday Lake Iron Company in its local affairs so far as it had occasion to call anybody; this was true in 1911 and I think, to some extent has been true since that time.

We got the first copies of the Finlay report in this court room on October 2, 1911; we got them from the Secretary of the State Tax Commission on the day of this meeting to review this property. The written complaint that was filed was prepared by Mr. Belden and myself on that day and typewritten by Mr. Hayes; it was prepared here in this adjoining room after a hurried reading of the Finlay report and was filed in connection with the hearing of the Commission on this property.

171 Q. I will ask you to state whether or not you have ever directly or indirectly, as general manager of this company, given any orders or instructions or hints or suggestions looking to the placing of the Sunday Lake mine at a lower level of assessment than the other iron mines or the other property generally in Wakefield township?

A. According to my best recollection, I never did.

Q. State whether or not you have ever known of any such attempt being made in behalf of the Sunday Lake by anybody else?

A. Not that I know of.

The Court: What about the fact of its being assessed at less than its known cash value?

Mr. Belden: I think that is true. The witness has testified to that. His testimony also shows that other property in the township was assessed on approximately the same level, being as much below the true cash value as the mine. There seems to have been an attempt to bring into this case a suggestion of bad faith.

The Court: I suppose it goes to the question of whether or not the rule of equity wouldn't apply and if they acquiesced in assessment under cash value when the law says it should be assessed at cash value, and not coming into court with clean hands, they could not get relief.

Mr. O'Neill: That is the law.

Mr. Belden: To put us in the position of not coming into this court with clean hands it has got to be made to appear that as a result of this method of taxation we have not borne our full share of the taxes in that township. We claim we have. If our property has been low; other property has been low.

WILLIAM KELLY, a witness produced, sworn, and examined on behalf of plaintiff, testified as follows:

172 Direct examination.

By Mr. Belden:

I reside at Vulcan, Michigan. I am iron mine manager for the Penn Iron Mining Company, whose properties are located in Dickinson county; I am also manager of the Republic mine in Marquette county. I have been connected with the iron mining business on Lake Superior for 24 years; during that time I have visited other ranges on Lake Superior than those on which I am operating; I have visited all the iron ranges except the new range in the State of Minnesota. My experience has been confined to the mining of ore. I remember the occasion of the employment of Mr. Finlay by the State Board of Tax Commissioners in 1911 to make a so-called appraisal of the iron mines. I have read the report issued by him and have familiarized myself with his method of calculations and with the various factors used in the course of that calculation. From my experience as a mining man, I cannot agree with certain of the factors used by him.

Q. Which of his factors would you say were incorrect?

Mr. Driscoll: That is objected to as incompetent, irrelevant and immaterial, as an attack upon the methods of Mr. Finlay. I understand the attack is for the purpose of showing claimed legal fraud?

Mr. Belden: Yes, that the Board of State Tax Commissioners used a method of calculation in contravention of the tax laws and any assessment based on that calculation would be illegal as well as a matter of legal fraud.

The Court: I suppose the witness couldn't pass on that question very well.

Mr. Belden: No, but the witness can testify with reference to the correctness or incorrectness of the factors used in that method of calculation, it seems to me. In other words, the plaintiff alleges in its declaration and asserts in the trial of the case that the
173 State Tax Commission based its assumption upon methods of calculation which were in contravention of the tax laws and which they had no right to use. We have already shown in this case that the Finlay appraisal and calculation was adopted by the state board, the only difference being that they took a different tonnage from that assumed by Mr. Finlay and then applied this method of calculation without the change of a factor.

The Court: Do you want this witness to testify as to whether they followed the tax laws?

Mr. Belden: No, I want to ask whether this witness has made a sufficient study so that he knows whether certain of those factors are contrary to the general judgment and opinion and standard authorities dealing with that subject. I want to direct it to the accuracy, or rather inaccuracy of certain factors and assumptions upon which that calculation was based. Specifically, I will ask him about the rate of interest which Mr. Finlay used in calculating the present worth of the profits of the mine to show that it is contrary to all the experiences of the business world and all the experience of standard writers and engineers dealing with that subject.

The Court: For the present the evidence will be admitted, although it is more for the sake of record, and it will be without prejudice.

Mr. Driscoll: Exception. May this all go in under a general objection and exception?

The Court: Yes. My impression is that you are confined to simply showing acts of fraud on the part of the State Board, but I will reserve that decision; that is, acts of legal fraud.

Mr. Belden: The claim is that it is an illegal and void assessment and also that it is a fraudulent assessment.

The Court: My impression is that it could only be illegal and void if it was fraudulent. You will have the benefit of an exception to all this, Mr. Driscoll.

174 Mr. Kelly: I reached the conclusion that the percentage or interest factor used was incorrect and contrary to general experience. I referred to the deduction of 5% on the value of the ore to be taken out next year, and 5% additional for the following year, and so on.

Q. Taking the net profit per ton as a basis he multiplied it by the estimated number of tons in the mine, did he not?

A. Yes, sir.

Q. Mr. Finlay further estimated the annual production of the mine?

A. Yes.

Q. And that enabled him to get the probable life of the mine, did it not?

A. Yes, sir.

Q. After obtaining the total estimated profits to be derived from

the operation of the mine over an established term of years, how did he determine the present worth of those profits?

A. He deducted 5% a year.

Q. In other words, he found the present worth of those profits?

A. Yes.

I don't know that there is any general method of determining investments in mining properties and mining securities, but I don't consider that 5% covers the risks of mining and I don't see that in his calculation he takes anywhere else any account of risks attached to mining. I refer to the risk of large flows of water, mine fires, of caving ground and machinery breaking down; those are the principal risks that are inherent in mining operations. The effect that these events have when they happen is that the cost of replacing is very high and there are other costs dependent upon delays. These things, or some of them, based upon the experience of the
175 past, may happen at any time; they do happen and they have happened and probably will happen.

As to the risks and uncertainties in connection with estimating the extent of ore bodies, my experience is that the ore bodies on Lake Superior are very irregular and where they have been located it is very difficult to estimate quantities. The ore bodies indicated by diamond drilling are very uncertain; I should say that this is true of all these iron ranges in Michigan, including the Gogebic Range. As between the rate of income or return from mining securities or mining properties and the return from first-class mortgages or municipal or railroad bonds or good securities of that class, I think anyone would expect to get a higher return from an investment in mining property than in mortgages or bonds because of the hazards of the business, and the rate of interest is the rate of the hazard. Experience has shown that the return from such other securities, as I have just mentioned, is more certain than in mining securities.

I know approximately what rate of interest is obtained from securities such as I have mentioned, first-class mortgages on real estate, railroad and municipal bonds and bonds of the best commercial class. I was offered the bond put out by the Chicago, Milwaukee & St. Paul Railroad on the basis of 4½ interest; that is one of the leading railroads of this part of the country. I know that the market price of other bonds has been reduced to that same basis. I am connected with the Commercial Bank of Iron Mountain and in that capacity have had experience in considering investment securities for five or six years. To some extent I am acquainted with directors of other banks and men who deal in bonds, mortgages, and securities. I myself have at different times bought mining securities and am to some extent familiar with such securities and stocks.

Mr. O'Neill: I would like to object to any testimony with reference to the reasonableness of the rate of interest allowed by
176 Mr. Finlay in his appraisal. Counsel assumes in his questions that this rate of interest under the theory of Mr. Finlay was allowed for the purpose of covering the hazards of mining,

which is not true. The hazards of mining are covered in an entirely different way. It was put in as a cost of production. This 5% has nothing to do with protecting the mine operator against the hazards of mining.

The Court: Is there anything in this testimony which shows that this 5% was allowed for risk?

Mr. Belden: Yes, your Honor.

Mr. O'Neill: I would like to call the attention of the court to the report made by this plaintiff to Mr. Finlay and the State Board of Tax Commissioners, in which the cost of production includes all these hazards and is carried out in the totals and included by Mr. Finlay in computing the cost of production, his figures being based upon this report and other reports too.

Mr. Belden: I don't know to what Mr. O'Neill has reference, but our report contains nothing but the actual cost during the past 5 years. His statement could only be true to the extent that——

The Court: What is there in the report that shows that this 5% was allowed to cover the risks and hazards? (Court examines report.) There is nothing here which shows that this 5% item was an item to cover risks, so far as I can see. It seems to me to show that this was a basis for getting at the present worth.

Mr. Belden: Perhaps a better way could be to say that the report shows that the risks and hazards were not covered and that he simply took the supposed profits which would be derived at the mine and computed the present worth of it at the legal rate of interest in Michigan.

Mr. O'Neill: This report is in evidence in connection with Mr. Finlay's deposition. If that particular matter isn't clear in the report it certainly is clear in his deposition.

177 The Court: I don't think there is any evidence so far before the court to justify your conclusion to the effect that the 5% covers the item of risk, Mr. Belden.

Mr. Belden: My question there related only to mining securities. The next question was going to mining properties.

The Court: I think you have already gone quite a length upon the assumption that this 5 per cent. covered the risk. Mr. Kelly has based his testimony so far upon that assumption.

Mr. Belden: I will waive that question.

Q. I will ask you, Mr. Kelly, whether there is any item in the calculation made by Mr. Finlay which makes allowances for the risks and hazards of the mining business?

Mr. Driscoll: Objected to for the reason that the report itself, or at least the deposition of Mr. Finlay, would be the best evidence.

The Court: The report would be the best evidence. I suppose the deposition could be contradicted by Mr. Kelly.

Mr. Andrews: If the court please, Mr. Belden is engaged. May I continue with the examination of this witness?

The Court: Yes.

Mr. Andrews, continuing the examination of the witness:

The initial investment necessary in the course of carrying on mining operations in a mine, requires exploration, a certain amount of machinery, the sinking of shaft and opening up and developing the property. It all requires an investment of capital. The amount of capital required depends entirely on the individual operation, each mine stands by itself in that way. By the development of a mine I mean generally the sinking of shafts and the driving of drifts and raises and winzes and openings of one kind and another. Any work not connected with the direct production of ore, we consider dead work. There is a certain amount in almost every
178 mine; there is more or less of rock work that is not productive.

We get the ore up and down by means of hoisting engines; sometimes the same machinery is used in hoisting both the men and the ore, and sometimes the ore is hoisted with one set of machinery and the men hoisted with another set; that depends on the individual operation. Whenever the mine is troubled with water, the water has to be pumped and the mine drained; that is a continuous operation.

Every mine requires more or less mining engineering and surveying and chemical work and some mechanical engineering. The chemists analyze the ore; they constantly do that as the work goes forward; that is done to determine the grade of the ore. In stockpiling the ore, the general method pursued in the way of keeping the grades together or separating them, is to have samples taken of the ore in place in the mine, and usually there are samples taken when the ore comes up and after it is dumped on the stockpile, and also generally after it is loaded onto railroad cars.

Q. In the handling of a mine is the obtaining of an organization of men to operate it an important element?

Mr. Driscoll: May we have a general objection and exception to all this?

The Court: I understand you already have. Yes, you may have the benefit of an exception.

A. Yes.

The success or failure of an operation may depend on the skill of the operator and the force of men he has; it may be due to that. You cannot accurately estimate or state the amount of ore that is to be found in, or the life of, a given mine with an estimated tonnage and a certain amount of ore in sight where it has been opened up; I never knew of any case where you could say absolutely what the length of life was or the amount of ore that is to be found. Ore bodies generally are very uncertain as to the size and shape. An ore body may change in direction; on one level it may be
179 found at one place and on the next level it may have bent in such a way as to be found somewhere else or it may be cut off. There is a difference between operations when the mine has but a few years to run and the time when there is lots of ore in sight and without any difficulties to encounter; if the amount of ore

left in a mine is small, it cannot be taken out at the same rate that the ore can be taken out if there is a large quantity; that increases the cost; if the quantity to be produced for a day or a year is decreased, it increases the cost.

Q. In the Finlay appraisal Mr. Finlay specifies the estimated life of the mine; what do you say as to whether that is possible in any reasonable calculation? Is it possible to estimate the exact life of a mine?

A. Not with certainty, no sir.

Q. In connection with the physical possibility of taking it out and the increased cost as you approach the end of the mine, what do you say about the effect of the market upon taking it out with any given rapidity?

A. I don't know as the market has anything to do with it.

Q. Supposing there are years of depression?

A. That wouldn't have anything to do with the quantity of ore in sight.

Q. Perhaps I didn't put my question right. Suppose the market doesn't take your ore at the rate specified by Mr. Finlay; what would be the effect on your mining operations? Could you continue at the same rate if you didn't dispose of your ore?

A. No, it would affect the mining operations.

Q. What is your experience in the time that you have been operating as to whether or not you must expect to encounter those years of depressions?

A. We certainly have had them.

Q. In all the operations of a mine, even leaving out the
180 dealing in and selling of the ore apart from the mining, in order to operate and to go forward successfuly does every operator expect a margin of some profit on his operations?

A. Yes, I think they are not going into it unless there is a profit; nobody would go into the business otherwise.

So far as I understand the Finlay appraisal, it makes no allowance for profit outside of what is the value of the mine. Nearly all of the ore from the mines of the upper peninsula of Michigan is consumed outside of Michigan, at lower lake ports and in Canada. I have not been engaged in selling or dealing in ore.

Cross-examination.

By Mr. Driscoll:

I am a mining engineer by profession; my business is that of mine manager of the Penn Iron Mining Company, whose mines are 11 miles from Iron Mountain, and the Republic Iron Company. Iron Mountain is 11 miles from Vulcan. I don't remember how far Iron Mountain is from Bessemer. It takes about 6 hours by rail; it is quite a distance. I have been connected with the Commercial Bank of Iron Mountain for six or eight years; I am a director of that bank and know the affairs and business of the bank pretty well; I know on what terms the bank deals with depositors.

I disagree with the interest factor in Mr. Finlay's appraisal.

The rate of interest depends on the character of the investment. I don't consider 5 per cent. sufficient to cover the risks of an investment in mining property. The depositors in the Commercial Bank of Iron Mountain get three or four per cent usually; the usual rate of saving deposits is three per cent.

There are risks in every business. A grocery man assumes certain risks; he has to anticipate accidents of various kinds
181 as well as the mining company. Yes, the water up stairs might not be turned off or might start to run and come down through and spoil a great deal of his stock as well as water in a mine might injure the workings in a mine; and as far as other contingencies connected with a mine are concerned they are similar in kind to contingencies connected with other business, although perhaps not the same in degree. The mining business as a business in fact bears a very close relation to almost every other class of business where people invest their money, except that it is more hazardous—generally considered more hazardous; of course, it is a different kind of business entirely. The hazards in all classes of business, including mining, are the same in kind but not in degree. All business has its risks, of course. It is as true that there are hazards in all business as it is that there are tricks in all trades; and a certain hazard in one business might be greater than that hazard in another business; it is true of all business, including that of mining.

Usually, any person who invests in any business has to invest money in it; of course, where there is a difference in the magnitude of the business there is a difference in the amount of capital that has to be invested in the business; this is true of business generally as well as in the mining business; before any person expects to derive any profit from any business he must necessarily invest money in it and get ready to do business; that is as true of the mining business as of any other. It is all the same in its general nature.

It is all the same in its general nature—any business, whether it is a grocery store or a department store or a railroad or a mine; money must be invested in it and after the money is invested in it, it must be managed, and it is as true of every other business as it is of mining that skillful handling and management has something, and perhaps a great deal, to do with the volume of the profits to be derived from the business.

182 Q. It is also true that when a person is in any business he is looking into the future; while he is carrying on business this year he is figuring on what he will do next year?

A. He is expecting profits. That is true of the mining business. It is customary for mining companies when they are getting out their ore for one year to develop ahead—explore ahead—and get posted upon what they have there and where they can work for next year; that has been customary for all the time I have been in the business. As a general thing I thing it is customary for the mining companies in the upper peninsula of Michigan to figure out in the spring of each year the amount of ore that they will ship during the navigation season of that year; an estimate is made,

generally in the spring, as to what amount of ore they are going to ship. These estimates are subject to accidents; no, these accidents are not always taken into consideration, there are some contingencies that are unforseen; ordinary contigencies are taken into consideration, but not the extraordinary ones. It is customary to do the necessary exploratory and development work to fit the mine out for business next year and let them know where they are at the following year; this is done right along in connection with getting out the ore and practically the same corps of employes are engaged in that work as are engaged in the actual work of getting out the ore, and the wages and expenses in connection with such work are charged up with the ordinary expenses and general expenses of the mine; that is customarily done. The expenses of a cave-in or run of water or anything like that which entails any additional expense is paid for by the ore; it is put down as one of the costs of mining, but that is not a regular cost. If it is an unusual occurrence, it is not figured as a part of the customary cost. Eventually it is a cost of mining; and if such things occur in a mine with such regularity as to be reasonably anticipated and expected, then they should be included in the cost of mining.

183 Q. Every contingency which involves expense to the operator of the mine and which experience shows is reasonably to be anticipated is properly a cost of mining and so considered by the mining operators and is customarily charged to the cost of mining; is that right?

A. Yes, that is correct, but when we come to estimate the cost for the future, allowance should be made for contingencies and that has not been done. As far as I can remember Mr. Finlay's report, there was no allowance made for contingencies—unusual contingencies. The cost in Mr. Finlay's report, as I recall it, is based on the cost of 5 years. There may have been no unusual occurrence during that time and an allowance should be made for such contingencies. That would merely show that there might something happen that was not foreseen—not provided for. That is what it means and that should be allowed in the value of the property.

Q. You can figure ahead with reasonable certainty in business matters on a great many things, can't you; for instance, the life insurance companies figure ahead and estimate the period of time which a healthy man will live, do they not?

A. They figure on a class of men, not individuals. No one can tell how long any individual man will live. They figure out the expectancy of a class of men in good health; they base the standard on the standards of class—on a group of individuals. They have mortality tables, based on a number of men; it wouldn't be true for any individual. I presume insurance companies do figure ahead that way and upon that basis and theory and upon that experience table they invest their money and insure the lives of policy holders of the company; and have been doing so for a great many years with success; when they insure the life of any man they

don't know just how long he is going to live after he is insured, and yet continue to do business.

There is no more particular skill in getting skilled men to
184 operate mines than there is in most every other class of business, they can be had; it requirs more skill than it used to. The mining business like every other business is getting to be more scientific; they can get and are getting specialists in each and every line, willing and able to do the work. There is no particular distinction between the mining business and any other business regarding the procuring of skilled help.

Q. Fires in mines are reasonably to be anticipated?

A. They are likely to occur.

Excessive water is a contingency that may occur; I wouldn't like to say that it is reasonably to be anticipated; it is one of the possibilities that ought to be taken ino account. A man who was going to buy a mine would take such a matter into account as part of the cost. So far as I know, Mr. Finlay didn't take that into account.

Redirect examination.

By Mr. Andrews:

It could not be arranged with any accuracy so as to take into account the contingencies that might arise during the next five years; but in using the cost as a basis of value there should be some allowance made for the possibility of the occurrence of the things I have spoken about; some of those things may occur in any mine.

Q. How much do you say it is customary to allow and it is necessary to be allowed in operating any mine as a factor of safety to cover these contingencies?

A. I wouldn't want to make a general statement.

Q. If you were figuring the present worth what would you say should be allowed?

Mr. O'Neill: Objected to as incompetent, irrelevant, and immaterial. It doesn't apply to any particular mine or a mine under any particular conditions.

The Court: Take the answer.

185 Mr. O'Neill: Exception.

A. I wouldn't like to make any general statement. I think that matter should be considered in every individual case.

I don't think a flat rule could be made that would cover individual cases.

Q. Your attention has been called to the mortality tables used by the insurance companies and you correctly stated that they applied to classes and not individuals. What do you say as to the possibility of applying such a rule?

A. I think every individual mine should be valued by itself.

Q. In figuring the life of a mine I want to know if you can figure a regular rate of operating cost or what is the fact as to

whether or not at the end of the life of that mine the operating cost increases?

A. If you had a certain fixed amount in an underground mine to be taken out, you may be able to take out a certain amount this year and possibly the same amount next year, but the amount would gradually decrease as you got to the end of the property. The life of the mine would be extended and as the amount of ore per year decreased, the cost would necessarily increase.

Q. What is the fact as to the present tendency as to the change in the cost of labor in the conduct of mines, has it remained stationary or increased or decreased?

A. All the elements of cost, both labor and supplies, have been increasing.

Some allowance should be made for increasing cost in the future; I don't think it is possible to estimate those elements of mining cost with any degree of certainty. I don't know of any place where in valuing farms or manufacturing plants they add to the value of the farm or plant the profit that can be made in handling it.

Q. In buying a mine could the purchaser afford to pay
186 to the fee owner the entire value of the ore plus all the profit that he can make out of it; would that be a fair way of valuing a mine?

A. I shouldn't think that was the value of the mine, no, sir.

Recross-examination.

By Mr. Driscoll:

Q. Isn't it as reasonable to say and conclude that some extraordinary thing which has not happened for 5 years in the past will not happen for 5 years in the future as that it will happen during the next 5 years?

Mr. Belden: Objected to as incompetent, irrelevant and immaterial. It is incompetent as a way of valuing a piece of property.

The Court: Take the answer, if you can answer the question.

A. It may be or it may not be. That depends on individual conditions.

Q. The insurance companies that insured the buildings in San Francisco never anticipated that earthquake?

A. In mining you can't get insurance on either floods or fires.

Undoubtedly there is always something in every business which may happen that you cannot guard against.

If I owned a house here in this city, it is supposed to be assessed at true cash value. The amount that I would pay for insurance would have nothing to do with the value.

The mining business is becoming more scientific all the time. They are using machinery more than ever in the production and mining of ore; they are getting air drills where one man operates the drill instead of two. This will necessarily decrease the amount of human labor and the cost of production of the ore.

187 Q. Isn't it true that unless a profit can be made from the ore the operators of the mines will not produce the ore?

A. The object of mining operations is to make a profit.

An increase in the cost of production is not necessarily followed by a corresponding increase in the price of ore. Whether or not such corresponding increase is to be reasonably expected, depends on a great many conditions. That may be influenced by the introduction of ore from other countries.

Q. That is a contingency that would be taken into consideration or would occur in any business?

A. That is a contingency that should be considered.

JOHN SIMONSON, recalled for further examination, testified as follows:

Cross-examination.

By Mr. Driscoll:

As soon as I was elected supervisor in 1911 I began to seek information as to what my duties were as supervisor and how to perform them. I did the best I could.

Q. Did you also from the time you were elected until after the last meeting of the board of review in 1911 make all the inquiries you could and do the best you knew how to find out what was the true cash value and proper taxable value of property in that township?

A. I did after the board of review met. Before that I didn't have very much time.

Q. Did you do that during all the time that you had to devote to it?

A. I did do it more or less but I didn't have very much time to do it until after the board of review met because I had a lot of work to do before that. I did the best I could as to that.

188 The tax commission were in Wakefield, I think, most of the year from January, 1912, on; I don't know just what they did.

I suppose they had skilled woodsmen, I ain't sure; they had what they call cruisers. From what I know of them I suppose they had experts.

The pages on my assessment roll vary as to the number of descriptions thereon. I have on my 1911 assessment roll 32 different description on each page here; that is in full forties. Some of the forties ain't full; they are assessed in 20 acre lots and one-third of a forty and one-quarter of a forty. There are 151 pages of assessments in this 1911 assessment roll.

I am not quite sure whether or not Mr. C. E. Walton was a member of the board of review of Wakefield township for the year 1911; but if I ain't mistaken, he was the year before I got elected. In 1911 the board of review of Wakefield township held meetings at the times required by law. Mr. Walton was at a meeting of the board; but I don't remember which of those days it was; we held the meet-

ing for quite a few days; I think we met for five days or so. I ain't quite sure which one of those days Mr. Walton was there.

I don't think that business generally in the village of Wakefield picked up very much between the time I made up the 1911 assessment roll and the time I made the 1912 assessment roll; not enough so that I noticed that. This time it has picked up lately. I don't think I noticed it picked up between the time when I made the assessment roll in 1911 and that in 1912; it may have picked up a little. Business picked up in the fall of 1912 after they started those drills over there in that new mining property. The prospect of getting new mines there made business pick up; it did pick up, quite a bit now. I think merchants increased their stock.

Q. Property became more in demand and more valuable?

A. I think so.

189 Q. And business generally became better?

A. I ain't in business but in the last three months' time the valuation of property went up some.

Q. That is due to the discovery of the new ore fields?

A. Yes, as soon as they have started talking about finding ore.

Redirect examination.

By Mr. Belden:

I don't remember when I made my first trip looking at property in my township, after that meeting of the board of review in 1911; I made the trips one after another; I was out in the woods pretty near once a week, or around the township. I don't remember whether or not I went out in the woods before the meeting of the board of review. I began those trips after I got through making up my roll.

Since yesterday I have added another column of figures to Exhibit 12, the table already in evidence. This column of figures (indicating) has the assessments which the State Board of Tax Commissioners made in 1912 on the same properties that were in the list before. I have checked those figures with the roll so that I know they are correct.

Mr. Belden: I would like to have my offer of Exhibit 12 include the additional column testified to. I make the offer in the same way as I did the previous offer.

Mr. O'Neill: Same objection.

The Court: Same ruling.

Recross-examination.

By Mr. Driscoll:

Those figures were put on there by the State Board of Tax Commissioners sometime in October, 1912. As a matter of fact,

190 some of the assessments I made in 1911 were afterwards reduced quite a bit; some that I made were reduced, as well as some raised; the Tax Commission reduced some of my assessments, but they raised the majority of them. Yes, there was a

difference of opinion between the Tax Commission and I as to the value of the property; it shows in this list that has been referred to by Mr. Belden; some of them I raised and some I lowered.

Q. This is just a few of the descriptions?

A. Yes, but that represents like the average; a kind of an estimate like.

Q. Who picked out this list?

A. I made it out with that gentleman over there (indicating Mr. Clancey who is associated with Mr. Melden.)

Q. Who suggested the list?

A. He (Mr. Clancey) told me to give the descriptions whatever I wanted and I turn to pages and give the different descriptions.

That list was made sometime last summer, but I checked it over yesterday and added that other column to it. I know that is the very same list we made last summer, but I forgot just what time it was made. The first description right here on this list was reduced from $590 to $160. I think you will find in there quite a number that were reduced, if you look close enough. I know there is more than one of them there.

Q. Isn't it true that during the years past, especially within the last 7 or 8 years, a great proportion of the lands in Wakefield township have been sold for taxes from time to time?

A. Not that I know of. A few pieces have been sold here and there but not very many descriptions have been sold. They generally redeem them.

Q. They have been redeeming them of late?

A. They have been redeeming right afterwards. I don't believe very many got hold of these pieces.

191 This record don't show which lots were sold for taxes. I know I bought a few pieces and they have been redeemed pretty near every time, and I didn't get anything out of them. The first time I bought was 7 to 8 years ago. We have had very few pieces sold for taxes in Wakefield county during the past six years. I don't know anything about how it was before that, because I didn't take notice.

Deposition of J. R. Finlay.

J. R. FINLAY, a witness called on the part of the plaintiff, being first duly sworn testified as follows.

Direct examination.

By Mr. Belden:

I reside in New York City and am a mining engineer by profession. In 1911 I was employed by the Board of State Tax Commissioners of Michigan to appraise the mining properties of Michigan under an act of the Legislature, which required the work to be done and the report handed in on or about August 20th of that year. The act which I refer to is Act 114 of the Public Acts of 1911. I entered upon this work about the 24th or 25th of May and completed it

about the 20th of August. It covered copper mines, iron mines, coal mines and at the beginning it was presumed to cover salt, gypsum, cement materials, brick clay and other such properties, but I rejected these finally. I did not do very much work on them. At the conclusion of my work, I prepared and submitted a report to the Board of State Tax Commissioners. This printed pamphlet entitled "Appraisal of Mining Property of Michigan" containing a report dated August 18, 1911, is the printed copy of the report which I made and submitted to that board.

192 Mr. Belden: This printed copy, which I now offer in evidence, contains the complete report made by Mr. Finlay, the witness, as published by the Board of State Tax Commissioners.

(Pamphlet marked Plaintiff's Exhibit "T.")

It is agreed by counsel that the offer so made by plaintiff shall be limited to that portion of the pamphlet and report which relates to the appraisal of the iron mines, and that this part of the report may be received in evidence; but that the pamphlet may not be attached actually to the deposition, but may be retained by counsel for the plaintiff, subject to their agreement to produce it at the rial, or previously, if needed by counsel for the defendant in the preparation of the case.

Q. In making this appraisal and inventory of the mines I will ask you to state whether or not a physical examination was attempted of all the mines?

A. No, it was not.

Q. What was the basis and theory on which you proceeded to make this appraisal?

A. The theory was that a valuation could be made by capitalizing the profits of the various properties.

Q. By capitalizing the profits you mean, I suppose, obtaining the present worth of the profits expected to be derived from the mines?

A. Yes.

Q. Will you explain the method by which you proceeded to capitalize the profits, of the respective mines, and of the iron mines generally?

Mr. O'Neill: I believe the question should be limited to iron mines.

A. Circulars were sent out to the mines asking them to make a report showing the receipts and expenditures for the five-year period ending with 1910, and also to make a statement of their ore reserves, with the analyses of their ore reserves so far as the companies knew them. These circulars were all replied to in a satisfactorily

193 way by the mining companies, and in addition to that I employed Dr. Leith as my assistant to look up what facts he could about the iron mines, and with Dr. Lieth I went to the office of the mines in person and looked at the maps. The purpose of that was more to find out what the mining companies meant by their report *or* ore reserves, because ore bodies were different in characteristics and different companies might have different ways of report-

ing what they had. By going around and seeing what their reports meant I could form a judgment as to how far the reports on ore reserves represented the producing capacity of the different mines.

Q. State the facts as to what use you made of this data and what methods you followed in making your calculations based upon the data so obtained from the iron mines.

A. I had the reports for five years on costs and receipts, compiled into a single report, showing the results in total for five years. Those figures I used in determining the average cost of mining, using every effort to make that cost complete. This was intended to cover not only the operating expenses of the mines, but the amounts spent for construction, outside of exploration and taxes—although the taxes were considered separately. In that way I obtained the average cost of operating each of the properties. The factor of the average price of ore I took from the reports of the standard ore prices for the period of seven years ending with 1907. That I was able to check with the reports furnished by the mines—their actual receipts during the five years, and I was satisfied that it was substantially correct. The average taken proved to be almost exactly the price ruling for the year 1911, which was somewhat lower than the preceding year. The prices of ore were calculated to relate to the grade of ore reported in the ore reserve. The third factor, the life of the mine, I established by the use of my own judgment. There was such a variety in the nature of the reports given me on ore reserves, that I felt
194 in fairness to all concerned it was necessary for me to exercise my judgment. Some of the mines had developed their ores by a long campaign of exploration, mines that had ore bodies that permitted very full exploration on account of lying practically flat.

Mr. O'Neill: I want to ask one question as to whether this applies to the mines on the Gogebic Range.

A. Yes, what I have in mind is all the mines of the upper peninsula.

Q. This would not be true of the mines on the Gogebic Range?

A. Part of it would.

Q. But not all.

A. No. Other mines did not do that, because their ore bodies were more nearly vertical, and it was not easy to explore them in advance by drilling, or perhaps they had not seen fit to go into the matter of explorations in advance so much. At any rate, some mines proved to have ore reserves for twenty, or perhaps even thirty or forty years ahead, while others that were making very handsome annual profits, only reported a few months' or a few years' ore. I felt compelled to discriminate between the character of the reports, and adopt as the amount of ore that I would use in establishing the life of the mine a figure that I thought probably it would meet. I would have to admit, of course, that in doing so I was making assumptions that might not be borne out.

Q. In following out this method of calculation, the factors used as applied to each of the mines were what, suppose you now name them?

A. The average cost of mining, the average price of ore, and expected life of the mine.

Q. And that was applied to estimating the tonnage of the mine?

A. Yes, sir; and the expected profits were discounted according to the time required to realize those profits, using a net
195 interest rate of five per cent., with a sinking fund supposed to be invested and re-invested at four per cent., calculated to equal the value of the mine at the end of the period when I believed it would be worked out.

Q. Referring now to your particular factors we will take first the average cost of operation. You may state whether or not that is based upon the average cost of operating the particular property during the previous five years, or what it was based upon.

A. Yes, it was.

Q. It was based upon the cost of operating, at each particular property?

A. Each particular mine; but in that particular also I found it necessary to use some discrimination. Because some mines would have been during the five years in question simply in a development state, expending money on the plant and in development, and not much for the extraction of ore, and I had to form an estimate of what changes would be brought about by the completion of their construction and operations of the mines.

Q. Aside from the mines in the development conditions, as you have mentioned, your average cost was based upon the average cost derived from the figures given you for the five years previous operations, in each particular mine?

A. Yes, but I had in mind, I remember, that I expected a gradual increase in the cost of mining. What changes I made in those figures due to that feeling I cannot remember.

Q. I suppose this gradual increase, or expected gradual increase of costs was general?

A. Yes.

Q. The same principle applied to all mines of the same general character?

A. Yes.

Q. Referring now to the average price at which ore might be sold, will you state how you determined that?

196 A. I have already told that; perhaps I could amplify that a little by stating that I felt that a period of seven years represented about normal conditions for the future. I felt that by extending the figures back into the nineties I should have taken in conditions in the iron business that were not likely to be repeated; because at that time the Mesaba Range was being developed, and was developing quantities of ore amounting to several times the tonnage known to exist in all the other ranges of Lake Superior put together; and that, combined with the panic of 1893, and the depression that followed it, caused iron in Lake Superior district to be more or less of a drug on the market for a number of years; and it was not until the expansion of business throughout the country had gone on quite a number of years that the glut of ore from the Mesaba Range had been partially overcome in the iron trade.

Q. Has the iron trade been subject to fluctuations as to the price of the ore during the past twenty years?

A. Yes, very large fluctuations.

Q. You may state the facts, if you are familiar with them, as to the price of iron ore during the seven-year period which you have taken, compared with any other seven-year period of the last twenty.

A. Why, I deal with so many figures, that in answering your question I can only give approximations; but I should say that the average for those particular seven years would be higher than the average for the preceding seven-year period, and probably for the seven-year period preceding that, but that it would be lower than the averagee price of ore any time before——

Q. Before 1890?

A. Before 1890.

Q. What was the date of the opening of the Mesaba Range?

A. 1892, as a shipping range. I remember that the price
197 of iron ore in 1892 was fairly high. I don't remember the figures.

Q. Did you take an average price for a term of years in estimating the copper mines?

A. No; if you don't mind, though, I would like to add as a commentary on the adoption of the price for the iron ores, that the price I took as an average for iron ore was almost exactly the price ruling during 1911, but that in the case of copper mines I took a price that was higher than the ruling price,—at least at the time I made the report. I took fourteen cents a pound, whereas, in August, 1911, the price of copper was only twelve and a quarter or perhaps twelve and a half cents a pound; so I took in the case of copper a price some ten or fifteen per cent. higher than the ruling price.

Q. In determining to take this period of seven years, you may state whether or not you were taking an arbitrary period, or one derived by calculation?

A. I should say it was a compromise between those methods. I took that average, not because it represented those particular seven years, or not wholly because it represented those seven years, but because I thought those seven years would probably be representative of the average conditions.

Q. In determining the life of a mine what elements did you take into consideration?

A. Those elements were hardly ever the same in two cases. I applied my judgment to the facts as I found them, or as they were reported to me. If the mine reported twenty or thirty years' ore in sight, I made no effort whatever to increase their estimates, even though I might be justified in doing so, because I felt that the life guaranteed by those reserves was sufficiently long to establish approximately the full valuation anyway. In the case of mines that reported no considerable reserves, I interpreted the facts as I
198 found them in given districts. In some places I found that the ore bodies developed on the lowest levels were small than they had averaged in the upper levels, and I took that diminution of volume into account and projected it downward so as to figure out

the depth at which they would probably play out, and estimated the amount of ore that would be found on that basis. In other cases I found there was no diminution in size even at the greatest depths, and that was the case on the Gogebic Range. I was forced there to assume an extent or depth, based on what facts I could gather in my visit; some mines were developed to a depth of over two thousand feet; others were not; there were mines that were less than two thousand feet, with no definite reason for thinking that they would not also be two thousand feet deep when they were fully developed; but in general I did not add more than twenty-five per cent. to the sum total of the ore that the mines had already accounted for. Figuring it this way, to make myself clear: If a mine had shipped 4,000,000 tons, and reported 2,000,000 more tons in sight, I would say that it accounted for 6,000,000 tons to a certain depth; and by adding twenty-five per cent. to that 6,000,000 tons I would get an assumption of perhaps a million and a half tons more. Adding that million and a half tons more to the two million tons reported in sight I would get an expectation of three and a half million tons for the future of the mine. In general terms that is the method I pursued.

Q. So that in estimating the life of the mine you took into consideration the ore reserves reported, or which you estimated these properties to have?

A. Yes.

Q. And based your calculations upon them?

A. Yes. All of those assumptions that I took had of course some reference to the facts as I found them on the neighboring properties.

Q. I have not asked you yet anything about how you de-
199 termined the probable total tonnage of ore in the mine. Will you state how that was done—you have discussed it in answer to these other questions, but will you go on and state how you reached a conclusion in estimating the total quantity of ore at any mine, so as to have that matter treated by itself?

A. First I took the figures given by the mining companies at their face value. Next I determined as well as I could from the maps and inquiries, what that face value meant; in other words, whether they had assumed any extensions beyond their bottom levels——

Mr. O'Neill: I believe the answer should be limited to iron mines on the Gogebic Range.

A. My answer will apply to that; it will include that.

Mr. Belden:

Q. You did the same with all the mines on all the ranges?

A. In making the answer it applies to the Gogebic Range perfectly. Then after seeing exactly what was meant by the reserves reported by the company, which, with that qualification, I accepted fully, and then added an expectation of future developments, as I have explained a few moments ago. And another thing, the total ore that I assumed the mines would produce I calculated would be the average grade of ore reported by the companies for the reserves that they reported themselves.

Q. You may state whether or not you applied these assumptions

as to the continuance in depth of the ore bodies, a continuance in quality, regardless of whether or not there was any basis in the way of drilling or further developments for that assumption.

A. No, there was always some basis for the assumption. On the Gogebic Range there was no drilling that I know of, but the reserve report always showed the latest ore found, I supposed, and gave some reason for an expectation of the quality of ore that would be found.

200 Q. Those latest explorations would show something of the quality. Now what basis if any did you have for these assumptions—in other words were they your own estimates that were based upon a knowledge of the district, if you please, or were they based upon some concrete results?

A. They were based on my interpretation of the developments of the business.

Q. That constituted your guess as to the continuance of the ore bodies?

A. Yes.

You have not asked me yet, but it seems to me to be pertinent at this point to say that the appraisals I made were made with a view primarily of finding the value of the iron business in each county. I don't know whether there were any written communications to me on that point from the Tax Commissioners, but I know we talked it over, and I gathered that the main thing sought for was the apportionment of state taxes among the different counties. Having that in mind I felt that the developments as I saw it warranted these valuations that I put on the different groups of mines. I had somewhat less confidence in the value that I would put on the individual ore bodies of those groups, and still less confidence in the valuations as applied to individual mines that might be working on a part of a given ore body. I had a more or less vague idea that so far as local taxation was concerned my report would not have any great consequence. I knew if my figures were taken it would result in increasing the payment of state taxes by the county, and that so far as that went the taxes of the mines might be increased; but I supposed that so far as local taxes were concerned they would be paid more on the basis of the local assessments. Now how far those ideas of mine were right I don't know. But I think that is a pertinent explanation to make with reference to the valuation.

Q. So that your purpose was rather to get a fairly approx-
201 imate value of ore bodies of the county, or group, than the ore bodies of a particular mine or company?

A. Yes; that was the salient idea in my mind, and I think I am fully borne out in entertaining that idea by the act of the legislature which I read, but the contents of which I do not fully remember.

Q. Requiring you to report in time for the meeting of the State Board of Equalization?

A. Yes.

Q. And this explanation which you have given perhaps does not appear in just that form in the report, does it?

A. I do not recall that it does.

Q. In the report you have treated all these iron mines by districts, but you have also placed valuations on each individual mine, have you not?

A. Yes.

It occurs to me to state further, in connection with what I have already said, that with reference to each individual property I used my best judgment of course, in getting the valuation. I am only speaking of the logic behind those valuations, as understood or as interpreted by a man familiar with those facts, or factors. It would appear, as I have stated, that the valuations for a group as a whole would be more likely to be accurate than for the individual parts of that group, on the theory that the mistakes in detail would equalize themselves. If one mine proved to be less valuable than I have figured on, some other mine would prove to be more valuable, and so on. I do not mean, in making this statement, as hinting that I did not believe that the valuations that I attached to these individual properties were reasonable only that in individual cases they were more exposed to the possibility of mistake than in the large groups.

Q. I will ask you further with reference to your method of determining the life of the mines, if you did not also take into consideration the possible capacity of production, the equipment,
202 the physical possibility of production by the mining company, as well as the ore reserve?

A. Yes, I did.

Q. In determining how many years it would run?

A. Yes.

Q. Referring now to the question of interest, you took the rate of five per cent. you have said?

A. Yes.

Q. And that is approximately the rate of current bank discount, is it not? Go on and state what led you to take five per cent.

A. Why I took that because I believed that it was a rate that could be realized on large investments safely; in fact a little more would be realized on good security. I have no reason to change my mind on that subject. I still think five per cent. as a net interest rate is all that can be expected.

Q. Assuming that a mine actually has the tonnage which you estimated; that it can be mined out at the average cost that you estimated, and within the period of time you have estimated; would you think five per cent. was a reasonable rate of interest to use in computing the present worth?

A. Yes.

Q. Now the mining business is classed as a more or less hazardous business, is it not?

A. Yes.

Q. And you are familiar with those hazards, are you not?

A. Yes.

Q. And they might include cave-ins, runs of sand, accidents, strikes, and a variety of things, might they not?

A. Yes.

Q. Suppose that your average cost was obtained from mines which

during the previous five years had been operated under normal conditions, having none of those accidents or hazards or unusual
203 things; you may state whether or not your method of calculation has any allowance for such extraordinary things?

A. It has no allowance, except the assumption that at the end of the five-year period some of the vicissitudes of the business would be shown up.

Q. And that might or might not be true, according to the facts.

A. It might not be true, but after all, the costs I assumed were intended to cover any reasonable expectation of expenditures of whatever nature.

Q. You may state the facts as to whether or not it is customary in making investments in mining properties to make allowance for these unusual hazards and accidents in estimating what a capitalist can afford to pay for properties?

Mr. O'Neill: I object to that question as incompetent, irrelevant, and immaterial, not applying to the Brotherton Iron Mining Company, or the Sunday Lake Iron Mining Company, or the Verona Mining Company, the properties involved in this litigation.

Mr. Belden: You don't object to Mr. Finlay's competency based on his experience?

Mr. O'Neill: No, not at all.

Objection overruled and exception noted.

A. Yes, but in making an investment a man naturally expects a bargain. He will not put in a dollar to get out another dollar. As matter of fact the returns made by a successful mine on the actual money invested is very much in excess of five per cent.; I would put it between twenty and thirty per cent. in these mines; but that was not the point I had in mind. The point I had in mind was after the investment was made, after the enterprise was a going concern, what would it amount to; what was it worth to a man going to purchase a mine. A man wouldn't buy it at its full value, because it wouldn't be any object to him. He would be looking for a bargain,
204 but on the other hand, he would not sell it if he felt satisfied that it was good for a net return of five per cent. interest.

Q. So that you determined rather the profit which would be made out of the business of operating these properties than its fair selling value in the market?

A. Well, yes. But those two statements mean about the same thing. It means this, that these profits are worth that much money in determining the value of the mine, determining the fair price a man could pay without expecting an exceptional profit, but at which he could sell without sacrificing the property.

Q. Your method as you have outlined it includes all the profits as you estimated them that could be made from that property, does it not?

A. Yes.

Q. And you have discounted that at five per cent?

A. Yes.

Q. Now in considering the selling value of that property in the

market, my inquiry was directed to the point that the market value would be further discounted by reason of these hazards and these well known hazards and possibilities of loss, which might reduce that profit; isn't that correct?

A. No, I don't think so; I don't think so. If a man bought, feeling that these factors were reasonable, he would be justified in buying the mine at that price. If he thought that those factors were unstable and were not likely to be realized, then he would attack the factors, and not the calculations based on the factors; he would not feel that there would be money in it. If, on the contrary, he felt that there would be more ore likely to be found, or the price of ore would be higher, or that the cost of mining might be reduced, he would feel that he was getting a bargain in buying at that price. If, as I assumed, all those things were in a state of balance, and not likely to be changed, then he could afford to buy
205 without making any particular profit, and at the same time without making any losses at the prices I have calculated for those mines.

Q. So that this conclusion would necessarily rest on the correctness of the various factors that you have used?

A. Certainly.

Q. Was this the method which you applied generally to all of the iron properties of Michigan?

A. Yes.

Q. And that included iron properties on the Gogebic Range?

A. Yes.

Q. And also the Brotherton, the Sunday Lake, and the Mikado properties in Wakefield township?

A. Yes.

Q. I notice in your report that it appears that certain iron mines which have been producing mines are estimated as having no value whatever, and that your report further shows that they have been operated at a loss, and I will ask you if it is one of the results of your method that an operating mine that has been operated profitably is deemed to have no commercial value?

A. Not necessarily. It would depend on the ore they have in sight, or that I counted on their having. A mine might show a loss during the five-year period, because it was in the development stage or because of some unusual expenditure which had been undertaken in the plant.

I would say this, if the ore found had been found in such small quantities, and at such high cost that it didn't make any money for five years, I would put it down as worthless.

Q. Perhaps it will direct your attention a little better to this point if I quote the following sentence from page 11 of your printed report: "Whenever the working of a mine proves that its expenditures will equal or exceed receipts from products at average prices, the property has no value at all and it is appraised at zero."

206 A. Yes, I don't change my mind on that at all. You will notice it states, when the record proves that expenditures will exceed receipts, or something to that effect, it implies discrimination on my part as to the future of the mine.

Q. Have you attempted, under the method of calculations which you have described, to make any distinction between different managements of the same property or of different property, in getting at these costs?

A. None whatever.

Q. So that you have taken the average cost derived from the previous five years of actual operation at a given mine as the criterion of the cost?

A. Yes.

Q. And also the average price per ton which the company in question, whatever it might be, has been able to get for its ore?

A. No, not necessarily the price that it has been able to get. That is established by a standard price for that grade of ore. In some cases a mine might have been under contract to sell ore at prices above or below the standard price, and I simply state this as something that might have happened. I don't know that I found any specific instances of that.

Q. In estimating the average profit per ton that could be made from these properties respectively, how did you determine that price, with reference to what they actually got, or with reference to the current market?

A. With reference to the standard price which I assumed was the price for seven years.

Q. And not from their actual sales?

A. Not necessarily, although I believe that in no case was there any wide divergence from the actual sales, at least I don't remember any.

Q. Did you have before you in the reports from these mining companies their actual sales of ore?

A. Yes.

207 Q. And that entered into your calculation in determining the average price per ton?

A. Yes.

Q. So that the average profit per ton to be calculated at any mine would be the difference between the average price which it had obtained for its ore and the average cost to produce it at that time?

A. Yes, that would be the actual results. My appraisal was based on the expected difference between the costs and their prices.

Q. I am only inquiring to find out how you did it.

A. Yes, you are quite right; only that as applied to the future I interpreted to some extent the meaning of their record of the past.

Q. Now with reference to the record of the past, won't you be a little more definite and specific as to what you considered with reference to the business and operations of a given company in considering this record of the past?

A. The only way I can answer that is to give some specific illustration. If a mine was operating with a fair product and reported a certain cost for operating, which generally is termed mining, I would assume that figure to be substantially normal, always allowing for an expectation of a gradual increase of cost. In addition to that I have applied freely figures of a more general nature. Some

companies had undertaken a campaign of exploration outside of their mines, and expended a good deal of money each year. That money may not have been expended on the particular mine in question at all, but it was spent for the purpose of developing their business and putting more ores in sight in Michigan; so I allowed as a part of their future cost the same average expenditures for outside explorations. Their capital expenditures for plant, I reduced as applied to the future as much as possible to an average sum for depreciation. I cannot remember specifically any figures. But
208 a mine might for the period of five years have been in the development stage, and during that time it might have practically completed its plant. Its expenditures for the plant and developments might have been greater than its expenditures for mining. I didn't think it would be proper to assume that such expenditures would continue at the same rate, but they would be reduced to some normal figure. Their expenses for their outside things, general expenses, such as commissions to selling agents, and expenses of their general offices, and litigation, and all those things I took just as they reported them. The taxes I took just as they reported them. I think that answers your question.

Q. Did you take into consideration the equipment of the property, the method of conducting the business, its possible litigations, its management, and all its opportunities for business, to ascertain the probable profits which that company would make out of the property?

A. Yes.

Q. So as to show the present worth of the probable profits that the company could make from operating that property?

A. Yes.

Q. But suppose that there were two mines of similar general character, but one operated more efficiently than the other; those profits would vary in proportion to the efficiency of its management and the propriety of its mining methods, would it not?

A. Certainly.

Q. And that would be true applying this general method of calculation to iron mines in Michigan or to any group of them, wouldn't it?

A. Yes.

Q. Such as the Gogebic Range, and specifically the mines such as the Brotherton, the Sunday Lake, and the Mikado?

A. Yes.

209 Q. If their management should be more efficient than their neighbors, their profits should be higher and the present worth would be larger?

A. Yes. In other words, their management is a part of their capital. If it is good it is worth more than if it is poor. However, I am satisfied that nothing is more dangerous than to assume that a management is poor, or that it is or that it is especially good because it is reported to be good.

Q. I call your attention to the following sentence on page 14 in your printed report, to wit: "The valuations in this report are

intended to cover the value of the mining business of a company in each case. It includes all value that can be put on mineral lands and mining, milling and smelting equipment and mining supplies." This in the line of the answers you have given, and you may state whether or not in reaching a conclusion as to the present worth of the profits, and placing sums representing your final conclusion as to the present value of each mine, you have included all of these different elements; that is to say, in giving the present value of a particular mine at a certain sum, whether in each case that is intended to include all of these elements you have mentioned in your report in the sentence I have read you?

A. Yes, except that in the case of iron mining I did not take in any smelting. That would apply to the copper mines only.

Q. You don't include any smelting equipment in assessing the iron mines?

A. No.

Q. But you included their equipment of supplies used in connection with mining, in saying that it forms a part of their mining business, did you not?

A. Yes. A mine that was well equipped with working capital and plant would profit by that in those operations. It would not have to borrow money for operating, and so on.

210 Q. If a mining company didn't have supplies and equipment and working capital, its probable profits would be depleted that much by getting them?

A. Yes.

Q. And that was the principle you proceeded upon in making these calculations, was it not?

A. Yes, sir.

Q. I will ask you to state whether or not that included all of the property of a mining company other than those exceptions which you have mentioned—their agricultural or timbered lands, houses, stores, merchandise, or cash used for business other than mining; you didn't include timber land in this report?

A. No.

Q. How about houses on the location occupied by the employes of the company; did you pay any attention to that?

A. No, I did not. I didn't pay any attention to stock-piles. I was rather cloudy about that. I remember distinctly that I did not take that into consideration, because it was too much in detail. My feeling was that stock-piles in general represented simply a part of their business which I was valuing, a part of their working capital. In a good many cases I supposed money had been advanced, or the stock-piles had been sold. I didn't look into those things. But my feeling is that the valuations I put on the mines were sufficient to cover the stock-piles.

Q. You excluded these classes of property used for other purposes?

A. Yes.

Q. That would be one of the results, would it not, of estimating

the present value of a mining business of a going company to arrive at the profits that could be made out of its business?

A. Yes.

211 Q. In connection with your appraisal did you go to Wakefield?

A. Yes.

Q. Did you make any actual physical examination of the Brotherton, the Sunday Lake and the Mikado Mines?

A. No.

Q. What did you do to ascertain such facts as you wanted aside from those reported, which you obtained from the companies?

A. I went to the mines with Dr. Leith and looked at the maps, and that was about all.

Q. At that time the bottom level of the Brotherton mine and Sunday Lake mine was what was known as the twentieth level, was it not?

A. I don't remember the level; my recollection is that it was about a thousand feet; that is all I remember.

Q. And that was as far as these properties had been developed downward, was it not?

A. Yes.

Q. In placing your estimate of one million tons as the probable tonnage to be derived from the Brotherton, and one million and a half as the probable tonnage to be derived from the Sunday Lake, how far did you estimate those ore bodies would continue downward?

A. Well, I don't remember. Perhaps something in the report will refresh me on it.

Q. Look at page 42.

A. The Brotherton, as I see has reported in sight 995,000 tons. That is on page 40, in the table.

Mr. Belden: That is a mistake, Mr. Finlay. That should be 95,000 tons.

Mr. O'Neill: I would like to ask if Mr. Belden has a copy of the report made by Mr. Finlay and if he has any objection to producing it.

Mr. Belden: We have no such copy, but I think you

212 can obtain the original without difficulty from the State Tax Commission.

A. Yes, you are evidently right, because the other figures checked. I can answer your question Mr. Belden, approximately at least. I state as follows: I think it fair to assume that this ore body will produce 2,500,000 tons at least. That would mean that I expected that it would produce ore equal to an extension of something over four hundred feet at the average area of its bottom level. But that does not necessarily mean that it would go down that deep; simply that it would be the equivalent of that.

Q. You mean on the Brotherton and the Sunday Lake?

A. Yes. I think it is a reasonable estimate. I am considering the ore body, not the division between the two mines.

Q. You said you projected that four hundred feet?

A. Not necessarily, by any means. It would simply mean that it would be equal to an extension of four hundred feet. It might extend much more and get a diminishing volume of ore, or if the ore body increased in size that amount would be taken in less than four hundred feet. It simply meant that I thought the evidence showed that that amount of ore could be counted on. We have a mine here a little over a thousand feet deep, with over 3,500,000 tons—1,068 feet, it had been opened. The ore body had been increasing in size as it went down, and my assumption simply was that about sixty per cent of the ore had been extracted, and it was reasonable to expect forty per cent would remain. I still think so, from any evidence in my possession.

Q. In holding that opinion are you speaking of the entire ore body?

A. The entire ore body, certainly.

Q. You are not making any distinction in your mind of the part owned by the Brotherton Iron Mining Company and the part owned by the Sunday Lake Mining Company?

A. No.

213 Q. In considering the extension of the bottom level of the Brotherton mine and the probability of its continuing, did you take into consideration the dyke that was cutting underneath this ore body, indicating its pitch to the east, and that the portions on the Brotherton side of the boundary line would shortly terminate?

A. Yes, I did. We talked that over and looked at the maps with a view to see what that situation was. As I remember it the development of the mine as a whole indicated that the ore body would presently leave the Brotherton altogether, but the bottom final level, the last level had shown an enlargement of the ore body on the Brotherton side, and the western end of the ore body between those two levels had not continued to go eastward as it had above, but turned down vertically. I do not remember the comparative areas of the two sides of the line, but my estimate of forty per cent on the Brotherton side and sixty per cent on the Sunday Lake side had reference to that change, or apparent change in the direction of the ore body.

Q. You had the maps before you showing the lines of the different properties, in making that estimate?

A. Yes.

Q. The maps furnished by the mining companies?

A. Yes. I had the maps right at the mining company's office, on the grounds.

Q. Did you discuss this matter with anyone representing either of these two mining companies?

A. No, except——

Q. You talked with Mr. Hardenburg, did you not?

A. I don't remember his name. He was an engineer or surveyor.

Q. A superintendent in charge of the mine?

A. I don't remember that he was. He was a young man. I

don't remember discussing anything with him except the general position of the mine, which seemed to be excellent. He
214 showed me the maps and showed me the plan of the bottom level. I remember that the ore was high grade and looked very well according to the record. I didn't discuss with him a division of the probable tonnage between the two mines, as I said nothing about that.

Q. Referring to that again, I will call your attention to page 91 of Exhibit "A," which shows that the Brotherton reported 95,000 tons of ore in sight, and ask you if that does not now refresh your recollection so that you would know that the 995,000-ton item on page 40 was a mistake?

A. I am satisfied that that is a mistake, yes.

Q. And the report which the company submitted of tonnage in sight on the Brotherton was 95,000 tons, which appears on page 91 of your report?

A. Yes, in all probability. I am satisfied of it.

Q. Now it was the claim of the Brotherton Iron Mining Company in that connection, was it not, that the ore body would shortly terminate on its side of the boundary line, and that this greater depth of ore which you are talking about was really on the Sunday Lake, wasn't it?

A. Most of it.

Q. In considering the reports made by the mining company of the ore in sight on the bottom level, which was 95,000 tons for the Brotherton and 150,000 tons for the Sunday Lake, you found no reason to doubt their figures as to the actual ore in sight on those levels?

A. No, I didn't doubt them.

Q. And the difference in estimates if there are differences, grew out of the inferences which you drew from what you saw and found there?

A. Yes.

Q. But you have no other information about this ore except what you derived from an examination of the maps and the statements made to you there?

A. No.

215 Q. You didn't make any independent investigation yourself?

A. No.

Q. Assuming that the larger part of this ore body was on the Sunday Lake side of the boundary line and the smaller part on the Brotherton side, constituting only a remnant of the ore body, you may state the facts as to what effect that would have on the operating cost on the Brotherton side?

A. Why it would probably increase the cost on the Brotherton side.

Q. And by increasing the cost it would necessarily reduce the profits to be derived from removing it?

A. Yes; the fact was, though, that the area remaining on the Brotherton land of the ore body was a solid mass, and what was

there I should judge could be mined very cheaply, that is as cheaply as the average, anyway and if it continued going down on the Brotherton side it would be a handsome ore body.

Q. If, on the other hand, it should prove to be cut off by the dyke, then it would be only a fragment, would it not?

A. Yes.

Q. And cost more to remove?

A. Yes. I can quite conceive that the turn of the ore body on the Brotherton side might have been more apparent than real—a bulge in that direction, and later developments might show that it continued or would go upon its pitch, and also on the Sunday Lake.

Q. It is necessarily true, is it not, that it is entirely speculative what course that ore body takes below the bottom level or how far it extends, or its width or its quantity or quality; those are all speculative questions?

A. Yes, I think it is fair to say so; there is an element of speculation. What is not speculation is this, that I saw the original first-hand maps of the bottom level; I know that some ore was going down below that level; I know that the area on that level
216 was greater than the average area on the upper level. Those are the only indisputable facts in the situation.

Q. In reaching the estimate of a million tons of ore in the Brotherton, and a million and a half tons in the Sunday Lake, you have practically multiplied by ten the estimate of tonnage in sight as reported by the company. Did you estimate or expect that that would continue for ten levels, nine more levels below the existing bottom level of the mines?

A. Well, I can't answer that question; I don't know.

Q. But you do think there was ten times as much ore?

A. Yes, more than reported.

Cross-examination.

Mr. O'Neill:

Q. Mr. Finlay, you are connected with the Harvard College of Mines, or School of Mines?

A. Well, I give some lectures there every year. I have been connected with that school over four years, and have in times past been actively engaged in mining.

Q. You may state with what mining companies you have been connected, and in what capacity?

A. As mining engineer for the Minnesota Iron Company in 1894; and later superintendent of their Norman mine on the Mesaba Range. Afterwards I was superintendent of a mine in South America, three years, and afterwards I was on the Marquette Range. I did some geological work for the Cleveland-Cliffs Iron Company; and then mining superintendent and manager for some mines in the Cœur d'Alene district in Idaho, lead mines; and later manager of the Portland Gold Mining Company in Colorado. I was assistant general manager for the Guggenheim Mining Company, and I have

been general manager of the Goldfield Consolidated Mines Company, and I have done some mining on my own hook. I am not at
217 present connected with any mining company in any capacity.

Q. What has been the nature of your college training?

A. Well, I just took the degree A. B., Bachelor of Arts, at Harvard, but under the elective system which has been practiced there I studied principally geology and engineering while I was there.

Q. Have you been employed at any time to perform similar work to that for which you were employed by the State of Michigan in making appraisals of these mining companies?

A. Yes, private employment; I have made examinations for Thomas F. Cole and John Ryan, known as Cole-Ryan interests; also for a man named Foglund and for the Vambergers; also for the Kissel-Kenneth Iron Company of New York. I can't recall them all offhand. I have had a great many employments of a private nature to investigate the value of mining properties in various parts of the country; these investigations were made by me for these several parties with a view of their purchasing. I describe my present occupation as an independent mining engineer, with an office in New York City.

The period of time covered by my investigations was just short of three months; that was the period designated by the Act authorizing the employment of an expert for the purpose for which I was employed. For these three months' labor I received $10,000 net, my expenses being also paid.

Q. Now I believe that you stated that a man by the name of Dr. Leith assisted you in making the investigations of the iron mines on the Gogebic Range?

A. Yes. Dr. Leith is a professor of geology at the University of Wisconsin.

Q. Can you state approximately how long he has been connected with the University of Wisconsin in that capacity or similar capacity?

A. No, but I think about since 1896. I am not sure.

218 Q. Do you of your own personal knowledge know whether Dr. Leith had ever made an investigation of the iron mines on the Gogebic Range prior to his employment by you to assist you in making these investigations that you have testified to?

A. Well I know that he has made a geological study of the ore deposits on the Gogebic Range, but how intimate that study was I don't know.

Q. Nor how extensive?

A. No. I do know that Dr. Leith had made a particular study of the ore deposits on the Gogebic Range: this study was made by him prior to his employment by me.

Q. And you may state whether or not the fact of your employing him was suggested, at least partly, by the fact that you knew that he was familiar with the ore deposits on the Gogebic Range?

A. Yes, it was.

Q. You may state if you can how Dr. Leith stands professionally in the mining world as a geologist?

A. I believe he stands very well indeed; one of the best in the business, and particularly with reference to iron ores.

Q. Can you state about how old the Gogebic Range is, that is how long active operations in mining have been conducted on that range?

A. Approximately twenty-eight years.

Q. And during that period of time have the mines on that range or some of them been continuously operated?

A. Yes, they have.

Q. You may state briefly what the ore formation is on the Gogebic Range.

A. Well it is what is technically known as a monocline, an iron formation from five hundred feet to perhaps a thousand feet wide and turned up at an angle of some sixty degrees, or a little more to the north. The production part of the range is highly oxidized;
the iron formation is red, and easily distinguished. A por-
219 tion of this iron formation has been concentrated into beds
of rich ore, and along certain channels in the formation, which have been formed largely by the intersecting of dykes with the inclosing rocks.

Q. That is, would you say the dyke was responsible for the accumulation of the ore in the place where it is found?

A. I think so in a great many cases. I don't believe all the ore in any particular mine can always be related accurately to one dyke.

Q. I will ask you to state briefly what is a dyke?

A. A dyke is a solidified igneous rock which has been thrown up from some unknown source through cracks in the rock.

Q. Does it usually extend across the ore formations?

A. It does in the Gogebic Range, but it might go in any conceivable direction; for the igneous rock that occurs in dykes bears the same relation to the crust of the earth that water would have in the cracks of ice on a pond. Most of those cracks might run in a certain direction, and some of them might run in every conceivable direction. The dyke runs in the direction the crack ran. Generally speaking, all the mines on the Gogebic Range are on the same ore formation; this mineralized zone extends in a northeasterly and southwesterly direction, more nearly east and west and enters the crust of the earth at an angle of about seventy degrees. The greatest depth to my knowledge to which this formation has been mined on the Gogebic Range is well over 2,000 feet, somewhere between 2,000 and 2,200 feet. The Newport mine was the first to follow the vein to that depth.

Q. Can you state what the comparative condition of the ore body is at the lowest depth that has been explored, compared we will say with the ore at the depth of one thousand feet, or 1,608 feet, according to these figures?

A. In the case of the ore body that the Newport is work-
220 ing on it is apparently, and I think I am safe in saying
certainly as good at 2,000 feet as it was at 1,000 feet.

Q. Are there any indications of the ore body becoming smaller at the Newport?

A. No. The Brotherton mine and Sunday Lake mine and what is known as the Mikado mine are on the same mass of ore formation as the Newport mine.

Q. Can you state as a mining expert that there is any reason to believe that the Mikado mine and the Sunday Lake mine and the Brotherton mine will not meet the same experience as to finding ore, as the Newport?

A. I know of none; referring of course to the ore bodies. Ore bodies have the same possibilities of extending down, as far as I know.

Q. You have examined quite a number of other mines on the Gogebic Range that extend to a depth greater than either the Sunday Lake, Brotherton or the Mikado mines, have you not?

A. Yes.

Q. Did you discover any mine on the Gogebic Range where the ore body was apparently playing out?

A. Well the Tilden mine is a case where an ore body had failed to go below a certain depth, but I should not say that the possibilities of finding ore on any part of the Gogebic Range was exhausted.

Q. Do you know the history of the Newport Mine?

A. Yes.

Q. Do you know that at one time it was believed by the owners that the ore body—that is some years ago and before the mine had got nearly the depth it is now, that the ore body was practically exhausted, and that afterwards another and better and larger ore body was discovered?

A. Yes, I have heard it, and believe it.

Q. And that is possible or probable with the Tilden Mine?

A. I think so.

221 Q. The ore formation, that is the mineralized zone, or the ore mass has not been exhausted at the Tilden Mine?

A. No.

Q. Would you say as a mining expert that the probabilities are that if this mineralized zone were operated there, ore bodies are likely to be encountered?

A. I think so, yes.

Q. In making your estimates of the probable ore in the Brotherton and the Sunday Lake Mines you have merely assumed that the present ore body on the bottom level, on the 1,068-foot level will continue for about four hundred feet lower?

A. I have assumed that it will produce ore equal to such an extension, yes.

Q. If the history of other mines on the Gogebic Range is borne out, and I think you have testified that such is likely to be the fact, that formation, or ore, is likely to continue for a great deal further into the earth than four hundred feet?

A. Yes.

Q. And if the experience at the Newport Mine is encountered in this mine, when they have gone over a thousand feet further,

followed the ore body a thousand feet further, they will still have equally as good an ore body, with no apparent indications of its diminishing?

A. Yes, if the experience in the Newport is——

Q. Is confirmed in the Brotherton and Sunday Lake?

A. Yes.

Q. Now I understand you to testify that from the maps shown by the Brotherton and Sunday Lake Mining Companies you estimate that the ore body which exists on these two properties is divided between the two properties in the proportion of about forty per cent on the Brotherton and sixty per cent on the Sunday Lake?

A. Yes.

Q. Now it has been suggested in the questions that have
222 been asked you that if a certain dyke continued to pinch out the ore body as it did in years past, but which it does not do now, that probably there would not be as great a proportion or as great a percentage of ore body on the Brotherton property—that has been intimated?

A. Yes, that is entirely possible.

Q. But if that were true, it would proportionately increase the amount of ore that would be found on the Sunday Lake property?

A. It would, according to my expectations.

Q. And if that were true then the probable ore that you have estimated that would be in the Sunday Lake Mine, and its value, would be proportionately increased, would it not?

A. Yes.

Q. And the Sunday Lake Mine would be worth more money, have a greater value than you have placed on it in your report to the State Tax Commissioners?

A. Yes, I should expect so.

Q. So that it would reduce the value of the Brotherton Mine and proportionately increase the value of the Sunday Lake Mine?

A. According to my judgment, yes.

Q. Do you know of your own personal knowledge anything regarding these operating companies of these two mines, as to who they are?

A. Well the reports given to me—well I don't know—they came to me from the Verona Mining Company I think. That is something remaining to be verified by reference to the reports themselves.

Mr. Belden: These reports show the owners of each of these properties.

Mr. Finlay: The same man exhibited to me the maps of the underground workings of all three of those mines; I don't know whether he was in charge of them or not, he seemed to be in
223 charge of the maps. I don't know the nature of these companies that apparently were operating these mines, as to whether they were holding companies or operating companies organized for convenience.

Q. Now in making an estimate as to the value of these mines, you used your very best and unbiased judgment?

A. Yes.

Q. You placed on these mines what to your mind at least was a conservative estimate of their value?

A. Yes, a fair estimate.

Q. In making this estimate, as I understand it you took into consideration the cost of production, the selling price of the product and the probable amount of ore in the mine?

A. Yes.

Q. You have testified that in fixing the price of the ore, that is in placing what to your mind was an average price, you took the prices for seven years prior to 1911?

A. Yes.

Q. And from those you decided what to your mind at least was a fair price to expect the ores would sell for in the future?

A. Yes.

Q. Counsel has suggested, and you have testified that for at least two periods of seven years prior to the seven years preceding 1911 the probable selling price would be somewhat less?

A. Yes.

Q. But that prior to that time it would probably be greater?

A. Yes.

Q. I want to ask you this question. How would the cost of production compare for the seven years, we will say the two periods of seven years prior to the seven-year period—or we will say prior to the five-year period you assumed in fixing the probable cost of production; would it be greater or less?

224 A. You ask for the probable cost. That is all I can testify to, that in my judgment it was less.

Q. Labor was cheaper?

A. Yes.

Q. There is one other question. You have testified that the price of ore was less for the period preceding the seven-year period that you estimated upon. I will ask you if you can state what the relative cost of transportation was for the seven years preceding 1911, and the fourteen years preceding that?

A. I cannot do that.

Q. Can you state whether it was greater or less?

A. No I cannot. I think is was about the same.

Q. Have you any information as to how the price of ore at the present time is fixed, or what determines the price of ore?

A. Why, I have no particular knowledge, no; I suppose it is determined by the supply and demand.

Q. You believe that that is the fact?

A. Yes.

Q. Supply and demand determine the price of the ore market?

A. Why I think so, yes. Of course that is subject to modification as the demand and supply may be modified, but in a general way, yes.

Q. Have you any information or knowledge as to whether or not

the producing companies, the steel companies, producers of ore, can regulate supply and demand?

A. No, I have not, not that I could testify to.

Q. Have you a belief founded on any information on the subject?

Mr. Belden: I object to the question and this line of examination as irrelevant and immaterial and incompetent, and for the further reason that the witness has already stated that he has no knowledge to enable him to testify.

The Court: Objection sustained. Exception noted.

225 Mr. O'Neill:

Q. That is, the manufacturers are engaged in mining largely at this time?

A. Yes.

Q. Did you observe the press reports of the testimony of Andrew Carnegie before the Stanley Congressional Committee with reference to the possibility of new steel manufacturing concerns being organized and operated?

A. Yes, very casually.

Q. Did you observe the statement made by Mr. Carnegie that new manufacturing concerns were not possible, because they could not purchase ore?

A. Yes, I noticed it.

Q. Have you any information or knowledge that that is the fact, based upon your own observations, your own experience or investigations?

A. No, I couldn't say positively about that.

Q. You may state where you obtained your information as to the selling price of ore for the five years previous to 1911?

A. Well for the five years it was contained in the reports given to me by the mining companies. For the seven years I took it from books, manuals published by Rukerd Hurd, of Minnesota Tax Commission, and from some other books, the names of which I have forgotten; and I noticed that their figures given in these publications checked closely enough with those furnished by the mines so as to leave no doubt in my mind as to the correctness of them.

Q. Have you any personal knowledge as to the existence of what is known as the Steel Trust?

A. You mean the United States Steel Corporation.

Q. Yes.

A. Yes, I own some stock in it.

Q. You are a stockholder in the United States Steel Corporation?

A. Yes, in a small way.

226 Q. Do you know whether the East Norrie, the Aurora, the Tilden and other mines that you examined on the Gogebic Range are owned by the United States Steel Corporation or by one of its subsidiary companies?

A. I do not know what constitutes legal proof, but I am satisfied that they do.

Q. And you put an appraised valuation on those mines that you

were directly interested in as a stockholder, to a small extent, at least?

A. Well, yes; the only question in my mind is whether I was directly interested at the time I made the report. I don't remember whether I had any Steel stock at that time or not.

Q. But you think you bought it since?

A. I know I bought some lately; I have had Steel stock at various times for the last four or five years.

Q. Do you know the amount of probable ore as reported to you the figures given you by those different mines owned by the United States Steel Corporation?

A. Why, I believe so; yes.

Q. And after doing your work you purchased stock in that company, is that a fact?

A. Yes, but I don't think that had any influence on my buying the stock.

Q. I believe you testified that in placing a valuation on the mines you took into consideration the stockpiles?

A. I didn't take them into consideration specifically. The nearest I can come to explaining my examination of the stockpiles, I considered them as a part of their working capital, as part of the mine. What ore was in the stockpiles had been mined previous to the time that I examined them, and I took that as a part of the past, without any particular reference to the future.

Mr. Belden: May I ask a question right there:

227 Q. That would be ore mined out during this period that you were collecting data of the average cost and other data from the companies?

A. Presumably, yes.

Mr. O'Neill:

A. It was not included in my estimate of the probable amount of ore in the mines; I don't remember taking it into consideration in any way, except as I have explained, that it was a part of the assets of the mine on which they could make profits; in other words, it is best described as a part of their working capital.

The report submitted by me to the Board of State Tax Commissioners is correct to the best of my knowledge, information, and judgment. There is nothing in that report, or the part of it offered in evidence, that I wish to qualify or modify or change, except as I have already qualified it in the testimony given here; I have no further qualifications to make; I don't wish to change anything in my report; every statement I made in that report to the best of my knowledge is correct.

Q. Recurring to one matter that I asked you some questions about, for one more question: Should the Brotherton Mine and the Sunday Lake Mine and the Verona Mine and the Mikado Mine encounter the experience of the Newport Mine, the value of those properties would be very much increased, in fact several times the

amount of the valuation you have placed upon them in your report, would they not?

A. Not several times as much. Referring of course to the ore body, and not to the properties, you might be correct.

Q. Let us assume that they duplicate the experience of the Newport, following this vein for practically eleven hundred feet further. I understand your estimate was based on a continuation of four hundred feet. If it should be continued to the extent of eleven hundred feet, which has been the experience of the Newport, it would be practically three times the valuation you put on it, making the same deductions for the increased cost of production and so forth?

228

A. Well it would be substantially more, but not to the extent you say, because the additional ore that would be mined, the estimate would be subject to greater discount in order to arrive at its present value; the cost would be greater to mine it, and the time when it would be mined would be put off so much longer that its present value would be very much less.

Q. It would be five per cent a year less would it not, or approximately?

A. Somewhere around there, yes.

Q. Referring to the question of the reasonableness of the interest rate that you have capitalized the profits of these mines at, I want to ask you if five per cent in your judgment is not a very substantial rate of interest on any investment that is as reasonably sure as the Brotherton Mine or the Sunday Lake Mine, or the Verona Mine, at the valuation you have placed on those mines?

A. I think it is a fair return, yes.

Q. It is a practically certain investment, is it not?

A. Not as certain as some investments.

Q. As certain as any investment you can conceive?

A. Oh no.

Q. What investment could be more sound—would government bonds?

A. Yes, decidedly, but the interest on a government bond would be less, of course.

Q. You think a government bond would be more certain or secure than the probability of finding ore to the amount you have estimated in these mines?

A. Yes.

Q. You think the experience of governments would sustain you in that, taking into consideration the experience and history of nations and the history of the mines on the Gogebic Range?

229

A. Well I would not want to invest in the government bonds of some nations, like Honduras or Nicaragua; but the United States looks to me like a substantial institution.

Q. Do you know of any mine on the Gogebic Range that once had been opened as a mine that is not still a mine?

A. I am not so sure of that.

Q. Do you know that?

A. Some mines on the western end I understand have been disappointing.

Q. But not on the Gogebic Range in Michigan?

A. Well they have all turned out very well, the ore bodies have, anyway.

Q. I will ask you whether or not it is a fact that mining methods are being continually improved from year to year as time goes by, methods and appliances?

A. Yes I think you can say there is a certain improvement; at least there is a change, certain changes in the methods used and the appliances. Whether it is absolutely better, considering the circumstances——

Hoisting machinery is being improved, it is made larger and I suppose better. Transportation facilities are improved and enlarged; I think the methods of mining, actually getting out the ore underground, are being improved upon. I don't think all those things reduce the cost of mining.

Q. Why?

A. Because whatever improvements are being made are being counterbalanced by the increase of the cost of labor and supplies and machinery and so forth.

Q. Assuming that the cost of labor will not increase, the improved conditions in methods and machinery would naturally reduce the cost of production, would it not, necessarily reduce the cost of production, assuming that everything else remained equal or stationary?

A. Well I should think there would be a slight decrease; nothing sensational, nothing very wonderful, judging by what I know
230 of mining in the last twenty years. I have no knowledge as to the reduction of the number of accidents occurring in mines as mining methods improved; I suppose the number of accidents in well managed mines is decreasing. I do not know what statistics really show on this subject. If accidents were gradually being reduced, it would be in reducing the cost of production, an element worth considering. I know of no other method than the one I employed which is worth considering in arriving at the valuation of the Brotherton, Sunday Lake, and Mikado Mines; it is the only method that appeals to me. The Sunday Lake and Brotherton Mines are on the same ore body.

Q. You made some statements in answer to questions asked you by Mr. Belden regarding the fact that you directed more particularly your investigation to determining the value of the iron mining business in various counties than to determine the value of any particular mine?

A. Yes.

Q. Would that in any way qualify your statement regarding the Sunday Lake and Brotherton, these two mines being on one body of ore?

A. No, it would not; it would make quite a difference about the division of the profits between the two concerns, but I don't think it would make any difference in the valuation of the ore body.

Q. It might make a difference as to the amount of ore that might

be on the Brotherton, or it might make a difference as to the amount on the Sunday Lake property?

A. Yes, it might.

Q. But it would make no difference as to the amount that was on both; the ore body is there just the same?

A. Yes.

In making my calculations as to the amount on each I followed the maps and charts furnished me by the mining companies; these showed the lines between the properties. I used the same
231 method in arriving at the valuation of each of the other mining properties on the Gogebic Range; whether the mine was owned by the Steel Trust or by any other company or corporation.

Dr. Leith is a resident of Wisconsin. I read the Act of the Legislature authorizing my employment to make an investigation and appraisal of the mines in Michigan, either before or immediately after I entered upon my duties. My effort was to satisfy the requirements of that Act and my energies and investigations were directed along the lines suggested by the Act; so far as I could, I followed its requirements.

Mr. Belden: We desire to offer in evidence the entire printed report of Mr. Finlay, for the purpose of showing the magnitude of the work he was obliged to complete within the short period of time given.

Mr. Belden: We offer the entire Finlay report in evidence.

The Court: I think it is already in. In order to make sure, the entire report will be admitted.

Which said report last above referred to was received in evidence and marked Exhibit 13. (This report was published twice by the Board of State Tax Commissioners the first publication containing 82 pages and the second one being composed of the first and also additional pages up to the number 185, the additional pages being the summary of data of Iron Districts in tabulated form. It has been impossible to procure enough copies of the second to attach a copy to each record and it is stipulated between counsel for the respective parties hereto, for the sake of brevity, that copies of the first publication be attached to and made part of the record in this case, and that a copy of the second publication, being entire Exhibit 13, be annexed to and made part of the original bill of exceptions in this case.)

Mr. Belden: We offer in evidence from the tax roll of 1911
232 of Wakefield township, Gogebic County, the record found on page 98 showing that the Sunday Lake Iron Company paid to the treasurer the sum of $29,175.50, being taxes on the west half of the west half of section 10, 47-45; also the sum of $2,419, being taxes levied and assessed against the east half of the southwest quarter of the same section, both of which sums were paid under protest and the protest is attached to the tax roll. I also offer in evidence the original protest. I will ask counsel to agree that a copy of this protest may be substituted in the record for convenience in the place of the original.

Mr. O'Neill: Yes, a copy may be substituted.

Which said protest was received in evidence and marked Exhibit

14, and is to be found in the supplement printed in connection with this record and is made a part of this bill of exceptions.

W. S. PETERS, a witness, produced, sworn, and examined on behalf of the plaintiff, testified as follows:

Direct examination.

By Mr. Belden:

I live at Verona, Wakefield Township, and have lived there about 13 years; I am now doing office work for the Verona Mining Company. During that time I have had occasion to look over some of the timber land in the township 47, N., R. 45 W. I have dealt in timber land in that township; have bought and sold timber and timber lands in section 5. I am familiar with the timber in the adjoining sections 6 and 7. The timber on these sections is chiefly maple, birch, a little oak, and basswood. That region is generally pretty well timbered. In February, 1911, I bought the southwest quarter of the northwest quarter of this section 5; this was
233 the only forty I bought at that time. I also bought the northwest quarter of the southwest quarter of this section 5; I only bought the timber, and had 10 years within which to remove the same. I have also known of other people buying timber or timber land in that general section of the country.

Q. You may state to the jury what in your opinion and judgment, we will say, first the timber on a forty such as you have described is fairly worth?

Mr. Driscoll: That is objected to as incompetent, irrelevant, and immaterial under the pleadings and under the issues in this case, and also for the reason that the question is not what the real value of the lands was but whether or not the supervisor acted in good faith in assessing them.

The Court: Take the answer.

Mr. Driscoll: Exception.

A. Why, I consider it is worth about $1,600 a forty for the timber. I am basing that upon prices which I have paid. I have cut timber out in that section; I operated on the northwest quarter of the southwest quarter a year ago this last winter; I removed only a part of the timber, the oak and the basswood; the maple and birch are still on the land. On cutting the timber I found that it was worth what I had paid for it. The value of the stumpage that I cut off equalled the total price I had paid; the oak and basswood I cut off equalled the total of the amount I paid for the timber. I know about the value of the land per acre out there aside from the timber. I know the price at which it is held and what the fair market value of such land is.

Q. State what that land is worth per forty outside of the timber?

Mr. Driscoll: May I have the same objection and exception to all this class of testimony?

The Court: Yes.

A. $600 a forty.

234 I am basing my answer upon the experience and knowledge that I gained in my business. The values I have mentioned are generally true of all timber land in that vicinity. I know a little about the farms in Wakefield township. Sam Hill's farm is located about three-quarters of a mile south of the Mikado mine; it is on a road; I guess they call it the county road; it is going south from our county road here. He has two forties; a small residence and quite a large barn and he has another little building there, I don't know what you call it, I don't know whether it is a bath house or what it is. He has pretty near forty acres of this land cleared.

Q. State whether or not it is reasonably suitable for farming purposes?

Mr. Driscoll: Objected to for the reason that the witness has not shown himself competent.

The Court: Take the answer.

Mr. Driscoll: Exception.

A. Yes, sir.

In my opinion, a fair valuation in 1911 of Sam Hill's farm, including all buildings and improvements, was anywhere from $3,000 to $3,500; I would put about $1,000 on the buildings and about $2,500 on the land.

I also know the farm of J. F. Finnegan in that vicinity; it is one forty, right close to the new county road. He has a residence and a small barn. The residence is a large house; a pretty nice house, a story and a half in heighth. A fair value of Mr. Finnegan's property in 1911 would run somewhere from $3,000 to $3,500; I would consider the buildings worth anywhere from $2,200 to $2,500 and the land, the one forty, about $1,000. The figure I put on Mr. Hill's land as distinguished from his buildings, would be about $1,200 a forty.

To a certain extent, I am familiar with the general farming country outside of Wakefield, out where these people are; I have been out there considerable. These valuations per forty

235 I have placed on cleared farm lands would be fairly representative of the land in that country where it is cleared for farming purposes. The Finnegan home was built in 1909 or 1910; I think it was in 1910.

I am familiar with the principal stores in Wakefield village. Mr. Ringsmuth kept a hardware store and a lumber yard in connection with it. He keeps quite a considerable stock; he carries mining supplies, hardware, lumber, and such supplies. In connection with his store he has a warehouse, in which to store his stock. I know something about the value of such stocks of goods.

Q. So that you could state the approximate value of his stock of goods?

Mr. Driscoll: Objected to as leading and suggestive.

The Court: Take the answer.

Mr. Driscoll: Exception.

A. Yes, sir.

Mr. Belden:

Q. State what in your opinion was the true value of Mr. Ringsmuth's stock of merchandise in 1911?

Mr. Driscoll: Objected to because the witness has not shown himself competent to answer.

The Court: I think the witness considers himself an all-around expert. I think we had better find out just how much of an expert he is.

Mr. Belden:

Q. State the source of your knowledge as to hardware supplies and mining supplies? Have you ever bought or dealt in them?

A. I haven't bought much lumber. I have sold timber. I have seen a number of prices from different houses on lumber. I have handled considerable hardware through the mine; that is, to get the prices.

Q. For how many years have you been getting prices
236 through your work in the mine on hardware and mining supplies and such things?

A. About 7 years.

Q. State whether or not the mining company is a large buyer of such things?

A. Yes, sir.

Q. State whether or not it is probably the largest buyer of such things in that township?

Mr. Driscoll: Objected to as leading and suggestive.

The Court: Take the answer.

Mr. Driscoll: Exception.

A. Yes, sir.

Mr. Belden:

Q. I will ask you to state, if you know, what was the fair valuation of Mr. Ringsmuth's stock in 1911?

Mr. Driscoll: Objected to for the reason that his competency has not been shown.

The Court: Yes, I think you had better find out what he knows about Mr. Ringsmuth's stock. I think when a man says he can stand outside of a hardware store and say what the stock is worth he must show himself competent.

Mr. Belden:

Q. Have you been in Mr. Ringsmuth's store?

A. Yes.

The Court: Have you ever looked over his stock?

A. Not very close. I have been in there and bought considerable from him. I never covered the whole stock but I have bought considerable for years.

The Court: Most people have bought more or less hardware. That doesn't qualify them to put a value on a hardware store.

Mr. Belden: I will take your honor's ruling on the question.

The Court: There isn't anything before me now.

237 Mr. Belden: I asked him to state the valuation and I understand Mr. Driscoll objected.

The Court: The objection will be sustained.

Mr. Belden: Exception.

There are other large stores in the village of Wakefield. Among the principal stores is that of Skud-Goldman, dealing chiefly in dry goods; they have a general stock; they have two floors; I think there is dress making on the third. The other large stores are The Wakefield Store and the Peoples Co-Operative. The Wakefield Store carries groceries and meat and covers just one floor.

The Ringsmuth store already referred to by me carries tinware of all kinds, stoves, harness, and he handles wagons and sleighs; also nails and bolts.

Cross-examination.

By Mr. Driscoll:

I am employed as a clerk in the office of the Verona Mining Company at the Mikado mine. Mr. Hardenburg is general superintendent and Mr. McIntosh is the superintendent under him. The Mikado mine is operated by Pickands, Mather & Company, the same as the Sunday Lake and Brotherton. I am the only one in the office there, I have charge of the whole office. I do no buying; we have a purchasing agent for all the mines. The Verona Mining Company sells only iron ore. I have no interest in the buying or selling of hardware, such as supplies, any more than what I buy myself outside of the mine. My employment does not require me to do any buying of that kind. These three mines have a common purchasing agent who does all purchasing of supplies used by them. These mines have a common warehouse and the supplies for the mines are chiefly purchased outside by someone other than

238 myself. I deliver the supplies to the employes of the mine when they have an order to get them. I have the charging of them all to the different accounts; I charge up what I give out. I know what is actually paid for the supplies, I get the invoice. I don't see the check that pays the invoices. That is all I know about it, what I see on the invoice. I know the houses that make these invoices, Marshall-Wells and Kelly-Howe; I don't see them made; I just assume they are correct. Mr. C. P. McClure of Duluth is the purchasing agent; he does not reside in this county. I have been employed by the Verona Mining Company for 7 years steadily; always as clerk.

Q. What is your salary per month?

Mr. Breen: That is objected to as incompetent, irrelevant and immaterial and not having anything to do with the issues in this case or bearing upon the credibility of the witness.

Mr. Driscoll: I think it would have a bearing on the credibility of the witness, at least.

The Court: I think not. I don't think you can go into that.
Mr. Driscoll: Exception.

—. I am the only clerk at the Mikado mine. I had a little help about five years ago. I am around the office pretty near all the time. I am out around the mine once in a while. I have to go out and give out supplies at different times. I work from 7 in the morning until 6 at night, during which time I am always around the office or the mine, and have been for the last five or six years. I have not worked there often on Sundays. I have worked Sundays when I wanted to catch up some work, but not that I had to. I could get along without working Sundays. My business is that of a mining clerk. I have done a little of lumbering. I am about 30 years old, will be 30 on my next birthday. This lumbering I did since I commenced working for the Verona. Since I have been with
239 them I have a man under me taking care of it. I have done some lumbering myself. This was not done at night, I go to the woods Sundays. Sometimes I drive out during the week, not very often. I go out there once a week about.

I am chiefly at the mine. I may go away from the mine for an hour or half an hour and drive out in the woods or go to Wakefield. All I have been out in the woods in the day time, except Sundays, would be for half an hour, or an hour at a time; just to drive out and come right back. During these week day trips I have gone out about two miles. Sundays I have gone a little further, but not during the week.

Q. On Sundays you haven't gone very much farther?
A. At times I have. Last Sunday I went out south.
Q. Last Sunday?
A. A week ago last Sunday.
Q. Going out there to look over the lands?
A. Yes, sir.
Q. To qualify yourself as a witness in this case?
A. Yes.

This Finnegan farm is a little better than two miles from the village of Wakefield. It is within the limit of my week day visits in the country; of course Sundays I covered a little more ground. I suppose I have been at Mr. Finnegan's farm about a dozen times since May, 1911. I have been in the house three or four times. I don't remember exactly when the house was built; I didn't take the date of it; I am pretty sure it was in 1910. The first time I was in that house was when they were building it; I think it was in 1910, I don't know exactly. The last time I was in it was last summer sometime. I had a call for Mr. Finnegan and went over there to get him. I don't know just what month it was. I know it was last summer. That is not the only time I was in it since the first time when it was being built. I have been in the house half a dozen different times anyway. I don't really know just the month when it was commenced or completed. I don't know positively.

240 Q. All the knowledge you have of farms around Wakefield is concerning those farms that you can see from the village or from the Mikado Mine?

A. Yes,—well, not that I can see altogether; I have driven out there.

On Sundays I have been out more than two miles. I drive out pretty near every Sunday. At times I go out by Finnegan's. Mostly I go out north of the Mikado, that is where I am interested most and I go out that way. I don't know the name of the road. All I know about the farm land is what I could see from the village and from the mine driving out the road by Finnegan's and this other road north that I have mentioned. About all I know about the timber lands and whether or not there is timber there and how much timber, is what I have found out myself on Sundays. The only sections I have visited are sections 5, 6 and 7 in Township 47, Range 45; those are the only sections that I have really looked over. As to my experience in lumbering, I have bought some timber and sold it; this has been since I have been a mining clerk. Before I became a mining clerk I worked around the mine; I was hoisting for a time and worked underground. I never worked in the woods. I have been out at Sam Hill's farm a number of times. I looked it over, I walked all around it two or three times. I did not examine his buildings very closely, still I looked at them. I went in the barn and I was in the house. I didn't look in the other little house that was there; I think it is a bath house, I ain't sure. A bath house isn't very big. I would really have counted that as a building even if I was not on the stand here testifying. I don't know what the length and width of that house is; I would say 10x12 or 12x14. The dwelling house is about 14x24, the dwelling house isn't very large.

That is only three-quarters of a mile from the Mikado, practically in town. It is about a half a mile from where drilling oper-
241 ations are being prosecuted down near Wakefield; the nearest drilling is right on Finnegan's. Both the Hill farm and the Finnegans farm are practically in town; they connect one with the other. There is not much of the Finnegan farm cleared. I would say pretty close to forty acres of the Hill farm is cleared. I don't think you will find more than two stumps to the acre on the cleared portion of the Hill farm; there isn't a whole lot of stumps on it. Mr. Hill has been clearing there right along. I know when I came to the Mikado he had considerable cleared at that time. I don't know just the time that he got it cleared up to its present condition; I don't think he done very much clearing this last year. I know nothing about the timber lands in the township except on those two descriptions I have referred to, that is sections 5, 6 and 7; of course I have been through those.

Redirect examination.

By Mr. Belden:

This drilling in the vicinity of the Finnegan farm was started about ten days or two weeks ago.

Recross-examination.

By Mr. Driscoll:

I know nothing about the valuation put on the Mikado mine by the taxation officers in 1911. I understand it was materially increased by the tax commission, and also that of all of the mines. I don't know that more than heresay. I did not ascertain that while attending to my business around the mine; I learned that chiefly at Wakefield around town.

Redirect examination.

By Mr. Andrews:

I heard as a matter of general talk that in 1912 the other
242 property outside of the iron mines was raised. The stock handled by the Co-Operative Store consisted of groceries, meats, hay, and dry goods. The building occupied by them is quite large; I would say it was about 30 x 80. They have a large stock. I understand that is a Co-operative system, the people mostly interested in it being Finns. They have a large trade. I have been in there from time to time during the day or in the evening; I used to trade there at one time. As to the people trading there, I noticed they are busy most all the time. I think they have four or five clerks there and they keep them busy. They have two teams delivering

Q. Now, there is just one more thing about this hardware store; about 1911 or since that time has it been enlarged?

A. They have a building that I think was put up in 1911 sometime. It is right close to the hardware store. They have it filled with wagons and sleighs and things like that. That is something new the last two years.

This concern deals in lumbermen's and farmers' implements, and so on; also plows. In general, the stock is large. Three men and two boys, I think, are engaged in conducting that business; I think, the name of the firm is A. Ringsmuth; I don't think that there is any company to it. Mr. Ringsmuth is also connected with the bank. I don't know whether he has been connected with the bank since its organization. I have been doing a little business with that bank and I noticed the first check book I got from them and it said "Citizens Bank of Wakefield," and then after that I got another check book from them and it said "Citizens Bank of A. Ringsmuth & Company." He is connected with the bank.

There are 8 saloons in Wakefield; and there were that many in 1911. There are now 2 livery stables there; they were also there in 1911. These livery stables are busy as I understand it. I know Mr. Hilles who has a livery stable there is busy all the time.
I think he has five or six horses. There are no drug stores
243 in Wakefield that I know of. I think Andrew F. Olson handles drugs to a certain extent. There is Olson Brothers at Wakefield and Andrew F. Olson. Olson Brothers have a grocery store. They do a nice business. There are two brothers and they

take care of the store and have one man delivering for them with a team. I should say they have been engaged in business about three years. In 1911 there was also at Wakefield the Delmat meat market. I considered he was then doing a pretty fair business. There are two hotels in Wakefield.

Recross-examination.

By Mr. O'Neill:

I was never in the grocery business and know nothing about the business.

Q. You don't know of the custom in the grocery business of putting in a large stock in the fall for the winter trade?

A. I have been in the store when Mr. Olson would explain things a little bit about stocking up in the fall and getting ready for winter.

Q. That stock is pretty well exhausted along in the spring?

A. Yes, that is the way I size it up.

The people trading with these different stores are chiefly those employed in the Sunday Lake and Brotherton mines; that business depends upon those people who are employed in those mines; I should say that business generally in Wakefield depends upon those two mines; and the value of the property in which those are conducted depends on how long those mines are going to last. The value of a stock of goods to a certain extent depends upon the facility and ease and profit with which the owners would be able to sell it in that community.

244 Redirect examination.

By Mr. Andrews:

The Castile mine is also located in Wakefield Township. There is some farming community around there too, but the farming don't amount to much.

Recross-examination.

By Mr. O'Neill:

They tell me the Castle mine is quite a mine; I don't know if it is a small mine. I presume the Tax Commission raised that mine in 1911.

Mr. O'Neill: It is conceded that all mining property on the Gogebic range was increased by the tax commission in 1911; that is a fact, isn't it, Mr. Andrews.

Mr. Andrews: I have no doubt of it.

L. M. HARDENBURG, a witness produced, sworn, and examined on behalf of the plaintiff, testified as follows:

Direct examination.

By Mr. Belden:

I reside at Ironwood and am general superintendent for Pickands, Mather & Company. I have been connected with the Sunday Lake mine since sometime in September, 1911. That was after the visits made to that mine by anyone in connection with the Finlay investigation. I never saw anyone there connected with the Finlay appraisal. I am a mining engineer; have been in the mining business since 1898. I have had experience in making maps. I am familiar with the conditions underground at the Sunday Lake and Brotherton mines in Wakefield township; I started to get
245 familiar therewith in September, 1911, and I have been familiar with them since early in 1912.

Plaintiff's Exhibit 7, being a map of the Brotherton mine and showing also a portion of the Sunday Lake mine, was made by F. K. McIntosh in July, 1912; it was made under my supervision and direction. That map shows the conditions in the mine up to very late in 1912 or early in 1913; it shows such conditions substantially as they were up to that time. The heavy yellow mark on the left shows the relation of the dyke to the workings in the mine. The purple color represents the ore left in the mine at that time. This yellow streak (indicating on map) represents the sliver of the dyke that has been referred to in the testimony. Since that map was made this 21st level was extended westward and encountered this dyke at a point about 25 feet from this line of the shaft and the shaft crosscut. I have indicated on this map with a cross the point representing substantially where that level encountered this dyke. This is about 80 feet below the end of the dyke as now shown on the map and about 100 feet east of it. Later work has shown that the dyke at this point (indicating on map) was cut by a drift.

Q. When you refer to this point, what level are you pointing to?

A. At the 20th level we cut the dyke at a distance of something like 150 feet west of the shaft—west of the line of the shaft and the shaft crosscut, so that the throw there was something over 100 feet.

Q. Have you answered my question as to the direction of the dyke at the point where it is encountered by the 21st level?

A. We encountered it at this point on the 21st level and at this point on the 20th level (indicating) and the dyke at this point (indicating) is flattening rapidly towards the east.

Q. At the 21st level?

A. Yes, at the 21st level.

246 Mr. Belden: We offer in evidence the map heretofore marked Exhibit 7 for identification. We offer it in evidence for general use in the case.

Mr. O'Neill: We object to it as incompetent, irrelevant and immaterial, having no bearing whatever upon any of the issues involved in this case and in no way does it affect the validity or justice

of the assessment or tax complained of or sought to be recovered in these proceedings.

The Court: It will be admitted.

Mr. O'Neill: Exception.

Mr. Belden: I will ask Mr. Hardenburg to bring that map up to date showing thereon the course of the dyke to eastward in accordance with his testimony just given with reference to it. That will make the map complete. I will have that done here in the court room. We offer it as a completed map showing everything up to date.

Mr. Driscoll: We would like to have something marked on it to show where it is extended to now.

Mr. O'Neill: While we do not concede the materiality or competency of any of this at all, he can now indicate it with a pencil and afterwards fill it in.

(The horizontal purple line appearing on this map Exhibit 7 and Marked "B. C. H." indicating the lowest point to which the dyke was extended on this map before its further extension by the witness Hardenburg in compliance with said request by plaintiff's counsel; and the witness thereupon made such further extension.)

The map, as so extended, was thereupon admitted in evidence, marked Exhibit 7, and is made a part of this bill of exceptions and is to be found in the stipulation printed for use in connection with this record.

Mr. Belden:

Q. I show you Exhibit 8 marked for identification and ask you if you know when that map was made.

247 A. This map was made at various times, but the last extension on this map was made on October 1, 1911.

I am familiar with conditions underground at the Sunday Lake mine. I am familiar with that map. It represents correctly, or substantially so, the conditions on the levels which it purports to show of the Sunday Lake mine.

Said map was thereupon offered in evidence by the plaintiff, and was received in evidence without objection and marked Exhibit 8 and is made a part of this bill of exceptions, and is to be found in the supplement printed for use in connection with this record.

Cross-examination.

By Mr. O'Neill:

I don't remember exactly how much ore was shipped from the Sunday Lake mine in the year 1912; I would say 150,000 or 175,000 tons; there was hoisted a little better than 100,000 tons, possibly 100,000 or 120,000 tons. I don't remember exactly how much was shipped from the Brotherton mine. The Brotherton and Sunday Lake shipped approximately 300,000 tons; as I remember it, these mines shipped somewhere near an equal amount. They shipped the stockpiles of the previous year and what they had stocked during that year. In 1911 the Sunday Lake shipped something like 87,000

tons. I don't recall the shipments from the Brotherton in 1911; I would think they were about the same as the Sunday Lake shipments, probably a little less. From those two mines we shipped in 1911 and 1912 approximately 475,000 tons. We have made arrangements for the 1913 production. The estimated hoist for the Sunday Lake mine for 1913 is about 120,000 tons as I recall it; and for the Brotherton mine I think it is about 75,000 tons.

248 This map, Exhibit 7, was made or completed in July, 1912. It is a copy of our working drawings. These being blue prints, of course, they are made entirely from tracings. We use these blue prints for our working maps. I don't know as we used this particular map I have in my hand marked Exhibit 7, but we used blue prints of the same tracings. The map used at the Brotherton mine is exactly the same as that one marked Exhibit 7, but not this particular map. This map is practically brought up to date. This drift (indicating) has been extended. We don't extend our maps every day.

The dyke was encountered on the 21st level sometime late in 1912 or early in 1913 when this 21st level drift was extended west. I don't remember exactly when that was done, but that was when this dyke was encountered at this point (indicating) and that was sometime late in 1912 or in the early months of this year. So far as the dyke is concerned this map is six months behind; this tracing was made in July, 1912. I could not state as to whether any additions have been made to the original tracings since that time. We bring it up to date twice a year. Twice a year we figure to bring them up to date.

The map I exhibited to the State Board of Tax Commissioners at the hearing held by it in October, 1912, was this map or a duplicate thereof. I am not sure that it was this individual map. I think this was the tracing that was used at the meeting held in Bessemer. The may was made to show the relations of the Sunday Lake and Brotherton workings and the relation of this dyke to the Brotherton ore body.

Q. For use on this trial?

A. I think it was made to show the conditions at that hearing held in Bessemer before the Tax Commission in October, 1912.

Q. Did you have a map made to show the conditions to the state tax commission and not bring the map up to date so as to show the actual conditions there at that time?

249 A. There have been several hearings of the State Tax Commission which I attended; there was one in Bessemer and in Houghton and another in Bessemer. This map was prepared, I think, either for the Houghton meeting or the second meeting held in Bessemer in October, 1912. As the Houghton meeting was held somewhat early in June and this map was not made until July, it could not have been made for that meeting. It was used at the hearing of the State Board of Tax Commissioners held in October, 1912. The map showed practically the conditions that existed at that time. This dyke was not located. We didn't locate

this dyke until December, 1912, or early in 1913. At the time of that hearing this dyke was not located unfortunately.

That sliver indicated on the map was struck before I took charge. I am, therefore, unable to say whether or not those then in charge of the property considered it was the main dyke. Before it could be determined whether or not it was sliver, you would have to go through it and find the main dyke beyond it; there would be nothing to indicate that it was a sliver, until you went through it. I do not think that that other piece of dyke we found down there is another sliver; I am perfectly willing to say that that is the main dyke. The difference between a sliver and the main dyke, is that the sliver is entirely decomposed; it has become entirely kaolanized, while the original dyke is hard and shows the structure of the diorite.

I heard Dr. Leith's testimony. The idea with reference to this sliver may have been that the dyke was pinching out and that this was the tail end of it. The only way it could be determined whether it was a sliver would be to go through and search for the main dyke and find it; and for that reason I feel confident that this dyke which we have encountered on the 21st level is the main dyke.

Q. You went through the main dyke below the sliver with a drift?

A. On the 19th level, they have gone through there.

250 Q. You didn't know but what that was another sliver?

A. I wasn't there at that time but I don't think at any time that they assumed that was a sliver. If they assumed that this was the main dyke (indicating) they must have assumed that that was another dyke (indicating).

Q. All you know is that below the 21st level you have struck diorite rock which you assume is the main dyke?

A. Yes, we assume that is the original dyke and we are reasonably sure of it.

I have not the blue print that was used at the first review of the State Board of Tax Commissioners held on October 2, 1911. I don't remember that there were any blue prints furnished. If there were, I don't recall it. I was present at that meeting.

Q. Isn't it a fact that at that hearing the Sunday Lake represented to the Board that that sliver was the main dyke?

A. I don't so recall it. I don't remember that they presented any evidence at all at that October hearing. As I remember it, they came in and offered to present proof but nothing was called for. I don't remember that any testimony or blue prints were presented at that hearing.

I have maps which represent the conditions that existed at that time in July, 1911.

Q. Have you the very maps which you had at that time; the identical ones?

A. I have blue prints which were made from the tracings that those maps were made from. I couldn't say that those were the identical prints. I have maps which represent identically the same thing. They were taken from the same tracing.

Q. What became of those maps that you had here before the State Board of Tax Commissioners on October 2, 1911?

A. They are in our files either in the Brotherton office or at the Carey. We have several blue prints of these and several blue
251 prints of others. Just which one I happened to take at that time I don't know. I wouldn't say that I was familiar with conditions in this mine on October 2, 1911—only the familiarity that I could gain with about one month's experience there.

Q. You wouldn't say that you were familiar with conditions there?

A. No, sir.

Q. You wouldn't say that it wasn't claimed at that time that this sliver was the main dyke?

A. I don't think there was any contention at that time. There was no evidence taken at that time. I don't think there was anything said about the sliver of dyke. There was no evidence or maps presented at that hearing.

Q. You don't know whether representations regarding this dyke were made to Dr. Leith and Mr. Finlay at Wakefield in 1911?

A. I don't assume that anything was represented to them. They were right there. I assume they made their own deductions.

Mr. Andrews: It is understood that the pencil lines which the witness has drawn on this map may be filled in with some other color chalk?

Mr. O'Neill: Under the same objection that was made to the introduction of the entire map.

Mr. Andrews: Yes, I understand that.

The Court: Yes, that may be filled in.

I have lived on the Gogebic Range about 12 years. I was at one time superintendent of the Mikado mine. There are two English papers published in Ironwood; one of them is published on Saturday, I don't know about the publication of the other. I don't know whether both of them are published on Saturday. Mr. C. E. Walton, formerly superintendent of the Sunday Lake mine, died either the latter part of August or the first part of September, 1911; I don't recall exactly I don't think there is a daily paper published
252 in Gogebic County; I never saw or heard of a daily paper. I suppose that it is common knowledge that there is none. The only papers I know of published in this county are The Ironwood News Record and The Iron Times. The News Record is published on Saturday; I don't know on what day of the week the Ironwood Times is published, any more than I believe it is the latter part of the week; such was also the fact in 1911.

The Mikado mine is about four miles from Bessemer. I don't recall exactly the time that I was superintendent of that mine; I think it was a part of 1904 and 1905, or 1905 and 1906. I was at the Carey mine at that time and the superintendent who was at the Mikado took a position with Oglebay, Norton & Company and the mine was not operated and I took charge of it until it was started up again; I had charge of the Carey mine all this time. I have been in the employ of Pickands, Mather & Company all the time I have

been on the Gogebic Range. During the past year I have been underground in the Sunday Lake and Brotherton mines with Mr. Crowell, one of the witnesses in this case.

Redirect examination.

By Mr. Belden:

The ore that we plan to ship from the Sunday Lake mine in 1913 and referred to in my examination, is located between the 20th and 21st levels mainly and a little ore above the 20th level. Of the ore we are so planning to ship from the Brotherton mine, there is a little ore above the 20th level and some between the 20th and 21st levels.

Q. State whether or not any change has occurred in the character of the ore as you go deeper? I refer first to the Brotherton mine?

253 A. The ore on the 21st level is non-Bessemer grade, yes, sir.

Q. What effect, if any, has that change in the character of the ore had upon the results of operation at the Brotherton mine in the way of profits?

A. I don't know what the profit on any of the ore is. I assume that non-Bessemer ore isn't worth as much as a Bessemer ore; consequently it would produce less money.

This main dyke at the place where we penetrated on the 21st level was approximately 30 or 40 feet in thickness. On the other side of the dyke we found ore formation; jasper with seams of ore in it; we did not find any merchantable ore on the other side of the dyke, and the surroundings did not indicate the existence of such body of ore.

Recross examination.

By Mr. O'Neill:

As I recall it, at the places where we have cut the dyke it is practically the same thickness; it varies between 30, 40 and 50 feet; it is approximately somewhere around that.

Q. Those drifts that went through the dyke didn't go at right angles to the dyke, did they?

A. That is something which we haven't determined. I think they cross the dyke diagonally. The drift might show it up thicker than it actually is; therefore, I wouldn't state definitely as to the thickness of the dyke.

I don't think it is a fragment of still another larger dyke; possibly it is. It occurs right in the ore formation. The Castile mine is east of it. The Pike and the Chicago are to the west but they are not mines. Yes, they have shipped ore.

And thereupon the plaintiff rested.

Mr. Driscoll: The defendant now moves the court to strike 254 out all of the evidence in the case relating to the condition of the mine after October 2, 1911; and further moves the court to strike out all the evidence in the case with reference to the

opinions of others than the taxing officials as to the valuation of the mine at any time, and especially after the 2nd day of October, 1911; and further moves the court to strike out all of the evidence in the case on the ground that the protest introduced in evidence is not sufficiently specific, and on the ground that the two counts in the declaration, and each of them, fail to set forth facts sufficient to constitute a cause of action.

Mr. Driscoll: Exception.

The Court: The motion is denied.

Mr. Driscoll: The defendant at this time moves the Court to direct a verdict in its favor and against the plaintiff upon the following grounds:

1. The evidence shows no fraud on the part of the supervisor in or about the making of the assessment of 1911.

2. The evidence shows no fraud on the part of the board of review of the township of Wakefield in reviewing the 1911 assessment.

3. The evidence conclusively shows good faith and honest intentions on the part of the supervisor in the making of the 1911 assessment, and that he used his best judgment and information making all such inquiries and investigations as he reasonably could make, and that he assessed the property of the township, after making all of the inquiries and investigation that he reasonably could, at what he actually and in good faith believed to be the true cash value of the property, using his best judgment and information in all respects and acting honestly and without any illegal intention in and about the making of the assessment.

4. The evidence shows conclusively that the board of review of the township of Wakefield in and about the reviewing of the 1911 assessment acted in good faith and used their honest and best
255 judgment according to what information they had, and were guilty of no wrong-doing whatsoever or any fraud or illegality or illegal action or lack of action with reference to that assessment.

5. Because the evidence shows that the plaintiff was present at the meeting of the board of review of the township of Wakefield at the time that board of review met and reviewed the 1911 assessments and that the plaintiff had full knowledge of all the facts and circumstances complained of in this case at that time and that it made no objection or complaint to the manner or way in which the assessment was made by the supervisor or to the action of the board of review.

6, Because the evidence conclusively shows that the supervisor of the township of Wakefield who made the 1911 assessment was a newly elected supervisor and not familiar with the duties of the office and who had a limited knowledge of the values of the property, and that he applied to the agent and representative of the plaintiff who had theretofore been supervisor of the township and that the supervisor of 1911 of Wakefield township looked at and examined the assessment rolls of that township for previous years which were made by the agent and representative of the plaintiff as the assessing officer of the township of Wakefield, and that the supervisor of Wakefield township for the year 1911, and also the board of review of Wakefield township for that year, were misled by the plaintiff, acting

through its agent and representative, as to the value of the property in the township, and if there was any unequal valuation or under-valuation in the assessment roll for the year 1911, the plaintiff is responsible for it, and that by and through its agent and representative it encouraged the copying, substantially, of the assessment roll for previous years made by its agent and representative as supervisor of the township of Wakefield.

256 7. Because the plaintiff, through its agent and representative before mentioned, and who, as before stated, misled the supervisor as to the value of the property, if there was any unequal assessment, appeared before the board of review of the township of Wakefield at one of its meetings in 1911, and although he then was fully aware of the fact that the tax roll for the township of Wakefield for the year 1911 and the valuations thereon were substantially the same as they had been for years and as he himself had made out the roll as supervisor, he made no complaint; he did not complain of the assessment against the Sunday Lake mine and did not complain against the under-valuation or improper assessment in any way of any other property holder or property in the township.

8. Because the evidence shows that the plaintiff, having full knowledge of the situation and of how the assessment roll for the year 1911 was made up and of the valuation thereon, failed and omitted to apply to the State Board of Tax Commissioners for any re-assessment within any reasonable time after the meeting of the board of review of the township of Wakefield.

9. Because the plaintiff, according to the undisputed evidence, prior to the time of the meeting of the Board of State Tax Commissioners on October 2, 1911, for the purpose of reviewing the assessments of the mines, knew that such meeting was to be called and knew that the valuations of the mines were about to be raised and that it was the intention of the Board of State Tax Commissioners to raise the assessment of mines, and with knowledge of those facts, failed and omitted to call the attention of the Board of State Tax Commissioners to any under-valuation of any other property in the township which it knew or believed to exist in time to reasonably permit the Board of State Tax Commissioners to make a general review of the assessment roll of Wakefield township for the year 1911 or to correct any such errors or omissions.

257 10. Because the evidence shows that the claims of the plaintiff with regard to the over-assessment or over-valuation of its property made in this case were presented to and considered by the State Board of Tax Commissioners at the meeting held in this county on October, 2, 1911.

11. Because the evidence shows that at the last mentioned meeting the said State Board of Tax Commissioners made deductions and allowances from the valuation of the property of the plaintiff as placed by Mr. Finlay, on the strength of the claim of the plaintiff which it presents in this case and asks for judgment upon, and that the claim of the plaintiff in this case was at that meeting judicially passed upon and the action of the State Board of Tax

Commissioners at that meeting is final and conclusive as against the plaintiff, and that allowances at that meeting were made by the State Board of Tax Commissioners not only for the claimed overvaluation of plaintiff's property, but also for any want of allowance for any cave-ins or washouts in the mine in Mr. Finlay's calculations.

The Court: The proof is rather silent as to what the board took into consideration. The only one who was on was the secretary and he said he didn't know just what the board took into consideration when they fixed the value.

Mr. Driscoll: Dosen't Dr. Leith say that 5 and 10 per cent. cuts were made just to offset such claims.

The Court: But Dr. Leith didn't know just what the board did when they came to make the assessment. So far as the court knows now, the board may have simply taken all of Mr. Finlay's work and Dr. Leith's work in connection with independent information which they had and arrived at their own decision.

Mr. Driscoll:

12. Because the evidence conclusively shows that the State Board of Tax Commissioners in their actions and in their review of the assessments at the meeting of October 2, 1911, and at all
258 other times, acted in good faith, and there is an entire lack of evidence of any fraud or illegality or want of good faith in their actions or conduct in or about the assessment of the property of the plaintiff, and they used their best judgment and information as to the value of the property of the plaintiff and in and about the reviewing of the assessment of that property.

13. The evidence conclusively shows that if the attention of the State Board of Tax Commissioners was called to any irregularity or inequality in the assessment of the property of Wakefield township at the meeting of October 2, 1911, it was impossible for them to call another meeting at that time, their duties requiring them to be elsewhere in the state where they had meetings noticed which they had to attend.

14. Because there is no evidence that the State Board of Tax Commissioners, after the time the Plaintiff claims to have called their attention to any under-assessment or irregularity in the assessment of other property in the township, could have made the requisite review to ascertain the truthfulness or untruthfulness of the claim of the plaintiff.

15. Because the alleged complaint made by the plaintiff to the State Board of Tax Commissioners on October 2, 1911, was entirely too general, did not comply with the statute, was not sufficiently specific to inform the State Board of Tax Commissioners of the precise claim or complaint of the plaintiff, was not sufficient under the law and was not sufficient to enable them to properly or intelligently act in the premises or ascertain what property it was claimed was under-assessed.

16. Because the alleged protest under which the taxes were paid

sets forth no grounds of illegality and is insufficient in law upon which to base this suit.

17. No complaint or protest was made to the State Board of Tax Commissioners, as required by law.

259 18. Because the plaintiff did not make any reasonable effort to inform the State Board of Tax Commissioners promptly of any claimed irregularity or insufficiency or inequality in the assessment of taxes in time to enable them to go over and review the tax roll of the township of Wakefield and, in effect, prevented the State Board of Tax Commissioners from acting in the premises as plaintiff now claims it should have acted, until it was so late that the board could not do so.

19. There is no evidence of any property subject to taxation having been omitted from the tax roll, as alleged in the declaration.

20. The evidence as a whole fails to show any illegality or fraud on the part of any of the officials charged with the duty of taking part in the assessment or review of the property of the plaintiff or any other property holder in the township, but, on the contrary, the evidence conclusively shows that all of such officers acted in good faith, exercised their best judgment and used their best endeavors to get the most accurate and reliable information they could and to strictly follow out the spirit and letter of the law in the assessment of property in the township, including the property of the plaintiff.

21. Because the evidence as a whole is insufficient to support a cause of action or to raise any question of fact for a jury in this case.

22. Because the declaration does not set forth a cause of action, either in the special count or in the common counts, as limited by the bill of particulars.

23. The State Board of Tax Commissioners in reviewing the assessment on the property of the plaintiff in Wakefield township for the year 1911, assessed that property at figures and at an amount that was relatively just and equal as compared with assessments placed upon the other property in that township for that year.

260 24. Because under the law it was discretionary with the State Board of Tax Commissioners to hold a general review of property in any assessing district in this county or in this state, and it was also discretionary with that board to review the individual assessments of any property owner or the property in Wakefield township or any other assessing district in the township or state.

25. For the further reason that the board of review of Wakefield township was the only tribunal to which the plaintiff in this case or any other property owner in that township could, as a matter of right, appeal for a review and adjustment of an assessment for the purpose of taxation.

The Court: The motion will be denied without prejudice.

Mr. O'Neill: Exception.

And thereupon defendant rested and again moved the court to direct a verdict in favor of defendant and against plaintiff on the

grounds and for the reasons mentioned and set forth in its said motion made to direct a verdict at the close of the plaintiff's testimony.

Mr. Belden: On behalf of the plaintiff I now desire to make a motion to direct a verdict in this case in its behalf for the amount of the taxes paid it, as shown by the evidence, together with collection fees and interest thereon at the rate of 5 per cent. In stating the grounds upon which this motion is based, unless the court or counsel have some objection to our doing so, I should like to file with your honor the requests to charge which we have prepared and which practically all request the court to direct a verdict in our favor, and refer to these requests as setting forth the grounds upon which we now present the same questions to this court under the head of a motion to direct a verdict. These requests are 10 or 11 pages long.

Mr. O'Neill: It is immaterial whether you read it into the record or file it.

261 The Court: You wish to file this in the case?

Mr. Belden: Yes, as setting forth the grounds upon which we now ask the court to direct a verdict in favor of the plaintiff.

The Court: Yes, you may do so.

The said plaintiff's requests to charge upon which its motion to direct a verdict in its favor was founded are as follows:

Now comes the said plaintiff by its attorneys and requests the court to charge the jury empaneled in the above entitled cause as follows:

I.

The Sunday Lake Iron Company is the owner of the Sunday Lake mine and the Iron Chief property, the Verona Mining Company is the owner of the Mikado mine property and the Brotherton Iron Mining Company is the owner of the Brotherton mine, all of which properties are located in the Township of Wakefield in said County and State. In January 1912, each of said companies paid the taxes assessed respectively against their said properties under protest as provided in the statute in such case made and provided, and each of said companies has brought an independent suit to recover with interest the amount so paid for taxes as aforesaid. These cases involve the same general questions and the consideration of substantially the same evidence except in respect to the nature and extent of the iron ore deposits in their respective properties. To facilitate the trial of the other two cases it has been agreed between the plaintiff and the defendant in this case that certain of the witnesses called here may also be questioned as to matters affecting the other two cases, so that such testimony may then be read at the trial of those cases without requiring their presence. You will, however, keep in mind that the rights of each company are sep-

262 arate and distinct and that this testimony relating to the Brotherton and Mikado mines has no connection whatever with the controversy in this case.

II.

It appears by the undisputed facts that in May and June, 1911, the Sunday Lake Mining Company's property was assessed by the defendant at $65,000; that subsequently the assessment of this property was reviewed by the Board of State Tax Commissioners in session at Bessemer, Michigan, on the 2nd of October, 1911, and was then changed and increased from $65,000 to $1,072,000.

When the Board of State Tax Commissioners met at Bessemer as aforesaid, the plaintiff appeared by its representatives and objected verbally and in writing to any increase in the assessment of its property, and filed a complaint setting forth that the real and personal property, other than the iron mining properties, located in said township, was generally under-valued and under-assessed, and that large amounts of such property subject to taxation had been entirely omitted from the tax roll, and the plaintiff offered to present proofs thereof to the board at such time and place as it should appoint, showing that such real and personal property in Wakefield Township was assessed at only one-third of its true cash value, and the plaintiff further requested the board to review and correct such assessments and omissions in accordance with the tax laws of Michigan.

This complaint was received and filed, but no action was taken by the Board of State Tax Commissioners with reference to the request there made and no changes were made by it in the assessments of property, other than the iron mining properties in said township, during the year 1911, but iron mining properties, including that of the plaintiff's already mentioned, were reviewed and raised. In due time the plaintiff in this case paid the taxes levied upon the assessed valuation so fixed by the Board of State Tax Commissioners,
263 but under protest, however, as provided in the statutes in such case made and provided.

The amount of taxes, together with collection fees so paid by the Sunday Lake Mining Company, was $31,910.45.

III.

It is the claim of the plaintiff that the assessment so made against its property for the year 1911 by the Board of State Tax Commissioners, was and is wrongful, illegal and fraudulent and that the same should be set aside for the following reasons:

(*a*) That said assessment was vastly in excess of the true cash value of its property and was so made with the intention and for the purpose of compelling said plaintiff to pay more than its just proportion of the taxes of said defendant township for the year 1911.

(*b*) That said assessment was not made on a basis relatively just and equal with the assessments of property throughout said township, other than the iron mines; that on the contrary the valuaion of its said mining property was intentionally and willfully increased by said board and the assessment thereon made greatly in excess of its actual value, but the assessments upon the property in said township, other than the iron mines, were knowingly left at about one-

third of the cash value of the same and without equalization or adjustment, notwithstanding the written protest of said plaintiff.

(*c*) That instead of assessing the property of plaintiff as required by the constitution and laws of the State of Michigan at its actual cash value, said Tax Commission knowingly valued and assessed the business of plaintiff and the profits thereof, and included therein, together with the actual mines, personal property of large value and other intangible property not a part of said mines, thereby making such assessment in a manner not applied to other classes of property in the State of Michigan and rendering the same unjust and unequal, and further duplicating the tax-
264 ation of large portions of the property so included.

(*d*) That said Tax Commission knowingly and purposely included in said assessment property values and business not permitted to be taxed under the constitution and laws of the United States, namely, it included in such assessment the net profits of the business of mining and of dealing in the ore from said mine, which entire business in dealing in said ore constitutes interstate commerce and may not be assessed or taxed by the State of Michigan or its agencies; and they also included in said assessment property and rights which in whole or in part arise and will arise and exist in other states and which receive no protection under the laws of the State of Michigan by reason of which the tax resulting from said assessment amounts to taking the property of said plaintiff without due process of law.

If these claims, or any one of them, are sustained by the evidence, then the plaintiff would justly be entitled to recover back the taxes so paid by it; and under the circumstanses of this case and considering all the evidence which has been offered therein, I charge you that if plaintiff is entitled to recover at all, it is entitled to a verdict for the full amount of said taxes, including collection fees and interest.

IV.

Under the provisions of the tax law it is the duty of the assessor in determining the value of real estate to include in the assessment of such lands the value of mines or mineral deposits known to be available therein. This does not entitle the assessing officer or board to assume the existence of such mineral deposits, nor to adopt a valuation based purely upon conjecture or speculation. Neither would such assessing officer or board be justified in determining or assuming a supposed extension of a known ore body merely by applying thereto an arbitrary rule not based upon the facts or known data showing the existence of such supposed extension or con-
265 tinuation beyond limits which are reasonably certain. It appears by the undisputed evidence in the case that said J. R. Finlay and subsequently the Board of State Tax Commissioners without having any known data or evidence showing the existence of ore in said Sunday Lake mine below the bottom level of said mine arbitrarily determined that said ore body extends to a great depth, estimated by said Finlay to be nine levels, equivalent to 900 feet below said bottom level, and by said State Board at a lesser depth

but far beyond any data or evidence shown in the case, or in their possession or known to them; that such action was taken notwithstanding the fact that said plaintiff denied the existence of such extended ore body and protested against being assessed thereon. I therefore charge you that the assessment made by the State Board was knowingly wrongful and therefore fraudulent and plaintiff is entitled to recover the amount of said taxes levied and paid in pursuance of such assessment and you should render a verdict for the plaintiff for the amount hereinbefore specified.

V.

It appears from the undisputed evidence in this case that real and personal property generally in said Township of Wakefield, other than the iron mines, was assessed in 1911 for only a small part of its actual value; that these facts were known to said Board of State Tax Commissioners and that written complaint was made by the plaintiff to the Board of State Tax Commissioners with reference to such assessment, advising said board as to such under-valuation and as to omissions from the roll, and offering to present proof thereof and demanding that such review be had; that notwithstanding its knowledge of such facts and the offer so made by the plaintiff, said Board of State Tax Commissioners willfully and intentionally raised and increased the assessment of said iron mines, refusing and
266 neglecting, however, to review or correct the assessment of other property generally throughout said township and leaving the same at such under-valuation, by reason whereof said plaintiff was compelled to bear and pay more than its just proportion of the taxes of said Township of Wakefield for the year 1911; and it further appears that it was known to said board that such would be the result of its action in raising the assessments of the iron mines and refusing to change the assessments of other property generally which was so under-valued. I charge you that such action on the part of the Board of State Tax Commissioners constitutes legal fraud which invalidates the assessments so made against the property of the plaintiff and entitles it to recover the sum so paid by it for the taxes of 1911, and I therefore direct you to render a verdict in favor of said plaintiff.

VI.

It appears from the undisputed evidence that the Board of State Tax Commissioners included in the assessment so made against the property of said plaintiff, the value of assumed profits to be derived from the business of mining and dealing in iron ore to be mined and shipped from said property, together with mining supplies, machinery and equipment, stock-piles and other personal property, and return such total amount as the valuation of said mine, then I charge you that the assessment so made was illegal and fraudulent and your verdict must be for the plaintiff in the amount hereinbefore specified.

VII.

It appears from the undisputed evidence that in making the assessment here complained of, the Board of State Tax Commissioners in fact used and relied upon the so-called appraisal of said mine made under the supervision of said board by J. R. Finlay as shown by his testimony and the pamphlet offered in evidence in
267 connection therewith entitled "Appraisal of Mining Properties of Michigan by the State Board of Tax Commissioners Under the Provisions of Act No. 114 of the Public Acts of 1911." I charge you that the principle upon which said appraisal was made as set forth in said pamphlet and the testimony of said Finlay, is in violation of the provisions of the tax laws of the State of Michigan and constitutes a rule of valuation not applied to any other class of property in said State and results in placing an unequal, unjust, excessive and inequitable valuation upon the property of said plaintiff. It further appears that said board, while not accepting his estimate of the probable tonnage in said Sunday Lake mine, adopted substantially the method of calculation so followed by said Finlay, and applied it in making the assessment for 1911 against said property and treated the same as representing the true value of said property. I charge you that this assessment made in accordance with and in reliance upon the appraisal and calculation so made by Finlay is illegal, fraudulent and void and you should render a verdict for the plaintiff in the amount hereinbefore specified.

VIII.

It appears by the undisputed evidence that even though the method used and recommended by J. R. Finlay in making his appraisal of said mines was under any circumstances permissable under the laws of the State of Michigan, yet the calculation in fact made by him was clearly wrong because the same was based only upon assumptions which were limited to the years when the demand for iron ore was steady and the prices therefor were the highest, by reason of which the average result if used and applied to future assumptions must of necessity be erroneous, and that any just calculation made in accordance with his method must take into account the fluctuations of the iron trade and the years when the
268 demand is poor and the prices are low as well as those when the prices are high as aforesaid. And that the calculation so made by said J. R. Finlay was further incorrect in that in estimating the future life of said mines he took into consideration only the physical capacity of said mines to produce ore and failed to consider the fact that such mines can only be operated to the extent that there is a market demand for the ore mined and shipped therefrom; for the reason that the same ignores and takes no account of the hazards and risks of mining and the mining business generally, including not only risks connected with the operation of said mines, but the well known uncertainties relative to the nature and extent of ore deposits in the ground and the possible losses in the business, which risks are shown by the undisputed evidence in this case;

all of which said errors and omissions in the calculation of said J. R. Finlay were brought to the attention of said Board of State Tax Commissioners by the plaintiff at its session at Bessemer as aforesaid, as well as the claim that said method of calculation was itself erroneous, illegal, and improper, notwithstanding which the State Board without other evidence willfully adopted and applied the calculation so made by said Finlay. I therefore charge you that the calculation made in reliance on the factors so used and established by said Finlay is erroneous and renders any assessment made in reliance thereon illegal, fraudulent, and void, and under such circumstances I direct you to render a verdict for the plaintiff in the amount hereinbefore specified.

IX.

It is shown by the undisputed evidence that substantially all the ore produced from the mines of the plaintiff was dealt in, sold and disposed of by the company in states other than the State of Michigan, by reason of which such business constituted and was interstate commerce. It is further shown by the undisputed evidence
that the valuation and appraisal so made by said J. R. Finlay
269 under the direction of the Tax Commission consisted of an estimate of the value of the profits of the business conducted by said company, including the entire profits and earnings derived from such interstate business. It further appears that thereafter the Board of State Tax Commissioners instead of ascertaining for assessment purposes the true cash value of the property of said plaintiff, as required by the tax laws of Michigan, substituted and adopted instead thereof said valuation of the profits of the business of said plaintiff as hereinbefore set forth, and used the same as the assessment valuation of said property and entered the same on the tax roll for 1911. I charge you that neither the State of Michigan nor any of its boards or agencies could legally assess for the purpose of taxation either such interstate commerce business or the profits of the same, and that an assessment of such business or profits must be held as illegal, in violation of the Constitution of the United States, Article 1, Section VIII thereof and also XIV Amendment thereof, and void, and your verdict should be for the plaintiff in the amount hereinbefore stated.

X.

Furthermore, it is shown by the undisputed evidence in this case that in making the assessment here complained of, the said Tax Commission included in said assessment as an element of value, the business of selling and dealing in the ore derived from the mines of the plaintiff, which business in dealing in said ore was conducted exclusively in states other than the State of Michigan and which profits were largely derived from the business so conducted out of Michigan, and said business received no protection under the laws of the State of Michigan. I charge you that neither the State of Michigan nor its agencies of boards have the right to in-

clude as elements of value any of its property, interests or
270 profits arising from dealings outside of the State of Michigan which received no protection from its laws, and that taxation upon such values amounts to taking property without due process of law, and that said assessment is therefore illegal, in violation of the Constitution of the United States and the XIV Amendment thereof, and void, and I direct you to render a verdict for the plaintiff.

The Court: It may facilitate the argument somewhat if I say now that my idea is that this case has resolved itself down to this point; the board of review met in 1911 in Wakefield township and assessed property at an assessed valuation less than the actual cash value of the property at that time. I don't understand that the plaintiff is complaining of that assessment?

Mr. Belden: No, your honor.

The Court: It appears that later on the State Board of Tax Commissioners issued an order to this plaintiff to appear with other mining companies to have their individual assessments reviewed. The board proceeded to hold a meeting here in the city of Bessemer and reviewed the assessment of this plaintiff with other mining companies. The result of this review was that the assessment of this plaintiff, and other mining companies was very materally increased. It appears that at that meeting the plaintiff presented to the Tax Commissioners a complaint—which might be termed a complaint—to the effect that other property was under-assessed and in effect asking for a review of the other property if their property was to be reviewed. It seems to me that the question itself — down to this; was the board bound to review the other property under the circumstances?

Mr. Andrews: I should like to make a further statement so that our position will be clear.

The Court: I want to get your position so that I will understand the arguments better.

Mr. Andrews: I took the liberty of interrupting you because——

271 The Court: I am glad you did. I always like to get the positions at the outstart.

Mr. Andrews: It appears that the state prior to this time had started on a plan for the assessment of the mines, including the iron mines, and had employed a man who adopted a certain plan for the purpose of assessment and in that plan or method included certain factors. It appears that that plan of assessment was carried into the final assessment of the mines, the tonnage being reduced and all the other factors being used, so that the result of it was that the physical property of the mines was assessed, and in addition thereto and coupled with it there was added all the profit which could be made or which it was estimated would result from the operation of the mine during the life of it. In other words, it is expressly stated that as a part of the assessment of this property and in connection therewith, they assessed the business resulting from the operation of that mine.

We claim that under the constitution and laws of the State of Michigan they had no right to do that, because the law does not contemplate such a thing and it is not applied to other property generally.

In the second place, it appears from the undisputed evidence, and I wish it clearly understood that we are relying in addition to the foregoing upon the proposition shown by the evidence that all the ore mined from these properties was mined and shipped and thereafter dealt in and sold and disposed of by this mining company in states other than the State of Michigan, the business of dealing in that ore, the profits derived from that business and all things connected with it being interstate commerce, and this assessment in whole or in part including profits arising from interstate commerce, which is simply another way of saying that the business of interstate commerce was taxed. We claim that under the federal law and under the constitution of the United States, neither the State of
272 Michigan nor any of its boards have any power to tax or in any way burden interstate commerce.

In addition to all the foregoing, we claim that the business of dealing in and selling and disposing of the ores from this mine, and from which perhaps a large portion of the profit derived in connection with the life and operation of this mine will come, is conducted in the State of Ohio and from there, and receives no protection and does not derive any of its safeguards from the law of the State of Michigan, and therefore to tax that property amounts to taking property without due process of law in violation of the constitution of the United States.

I take the liberty of calling these things to the attention of the court inasmuch as we understand that these transactions are conceded and inasmuch as we have Mr. Finlay's own statement as to just how the assessments were made. It appears that it was his purpose as an employe of the State Board of Tax Commissioners to tax the business of these concerns, which includes all the value of the property plus all the profit which can be derived from dealing in and selling the ore.

And thereupon said motions were argued by the counsel for the respective parties, (the defendant claiming the right to have the case submitted to the jury in the event that its motion for a directed verdict be denied) and at the conclusion of said arguments the court overruled the motion so made by the said plaintiff and granted the motion so made by said defendant and disposed of the case in the following charge to the jury:

The Court: In this case the plaintiff has requested me to direct a verdict in favor of the plaintiff and the defendant has requested me to direct a verdict in favor of the defendant, so that it remains for me to direct a verdict either for the one or for the other. After a careful consideration of all the testimony offered, I have concluded
273 to direct a verdict in favor of the defendant.

This case was brought by the plaintiff to recover taxes paid under protest for the year 1911. It appears from the testimony that the plaintiff is an iron mining company engaged in iron mining in

the township of Wakefield and operating what is known as the Sunday Lake mine, which is the property upon which the taxes were paid under protest. It seems that in the year 1911 the assessor of the township assessed the property in question at $65,000. The board of review of the township met at the time specified by law and reviewed the assessments of the supervisor in that township for that year and endorsed his assessment upon the plaintiff's property at the sum of $65,000. The plaintiff does not complain of the action of the assessor or the action of the board of review.

Later in that year the State Board of Tax Commissioners, acting as a board of review, held a meeting at the city of Bessemer, in this county, and, in fact, in this court room, and proceeded to review the assessments of the iron mining properties throughout the county, including this property of the plaintiff. At the time of that meeting the plaintiff appeared and protested against raising the assessment of its property and presented certain facts before the board, among others, that the balance of the property in the township of Wakefield was assessed at a little over 33 per cent. of its true cash value, and claimed that its property was relatively assessed with the other property in the township and therefore should not be raised unless the entire township was reviewed and the property of the entire township relatively raised.

It further appears from the evidence that this meeting which was held by the state board was to review only a portion of the property of the township, the order having specified only certain prop-
274 erties and the board was here only to review such properties. Under the order and notice which had been given of such meetings, it would have been illegal for the board to proceed at that meeting to review the property in the balance of the township except such property as was included in their notice. This meeting was held at a time when it was then too late for the state board to proceed to give notice of a general review of the township under the law, for the reason that this meeting was held on October 2, 1911, and the annual meeting of the board of supervisors when the entire county would be equalized by the county board of supervisors was to be held on the 9th day of October. This did not permit of the State Board of Tax Commissioners giving the necessary statutory notice to review the entire township.

The question then presents itself to the court whether, under such circumstances, the state board was obliged to abandon the reviewing of the particular property covered by its notice and order and for which the meeting was being held because of the fact that it had brought to its attention by the plaintiff the information that the balance of the township was not assessed at cash value. I think the evidence in this case justifies the statement that under the testimony of Mr. Munger, the general manager, the property of the plaintiff was not really relatively assessed by the assessor or board of review for that year. The most the plaintiff claims is that the property of the balance of the township was assessed at about 33 per cent. of its cash value. Mr. Munger by his evidence shows that the Sunday Lake mine was worth not less than $350,000. It therefore was not

even assessed at 33 per cent. of its cash value so that it was really assessed under the other property in the township. But, in any event, I conclude that the state board had a right to proceed to review the assessments upon the property covered by the order and notice and that the action of the state board was valid in proceeding
275 to review the property and increase the assessment, provided they acted legally in making the increased assessment. That raises another question. It appears from the evidence that during the year 1911 the state legislature of Michigan passed a special act which provided for the employment by the state of an expert to examine the mining districts of Michigan with a view of getting at the value of the different mining properties throughout the state. This was done primarily for the State Board of Equalization which met that year and it was to assist them in equalizing the values of the various counties throughout the state. Mr. J. R. Finlay was employed as this expert and he proceeded to make an investigation of the value of the different mining properties throughout the state, including the iron properties in this county, among others, the Sunday Lake mine belonging to this plaintiff. Mr. Finlay, upon investigation, placed the value of the Sunday Lake mine at $1,460,000. The plaintiff claims that the factors which Mr. Finlay took into consideration, and which were later, to a considerable extent, at least, adopted by the State Board of Tax Commissioners at their meeting on October 2nd, were improper. Mr. Finlay took as factors in placing the value upon these various mines, first, the average cost; second, the average prices; third, an estimate of future life. The principal claim of the plaintiff in this case as to the factors used by Mr. Finlay in getting at these values is that he, in effect, assessed the profits of the plaintiff; that is, he levied an assessment upon the business—the going business—including the profits which were finally made upon the ore. It was regarding this question that I was in most serious doubt upon yesterday, but I have given the entire report and the testimony of Mr. Finlay considerable study since then and I have come to the conclusion that Mr. Finlay did not tax the profits and did not tax the business of this plaintiff but, in fact, only assessed the property. He used the profits as a factor in getting at the actual value of the mine itself.

276 Now, for instance, suppose there was a kiln of brick at Wakefield on surface; assume that there was no market for these brick at Wakefield; the question of their value must necessarily be determined by, first, what it would cost to produce them there; second, what it would cost to transfer them from there to the market; third, what they could be turned over to the consumer at the market for. Taking all those factors into consideration, what you have left would be the actual value of the kiln of brick at Wakefield; this is, take the selling price and from that deduct the cost of producing the brick in the first place and the cost of conveying them to the consumer, and you have the value of that kiln of brick at Wakefield. I am satisfied that is what Mr. Finlay did with this iron ore and

these mining properties. He simply took into consideration the fact that the ore was there in the ground. He considered what it would cost to raise it to the surface and convey it to the market and turn it over to the consumer. Then he considered what the consumer would pay for it. Then he deducted the total cost of the product—all that it cost to put it into the hands of the consumer—from what it would be sold to the consumer for, and placed that as a fair valuation for the ore that is in the Sunday Lake mine. It seems to me that that is in every way fair. I know of no way in which you could get at the actual value of that ore better than the way adopted by Mr. Finlay. It seems to me that in any event it is an honest way, and I would say, a just way.

We find that the State Board of Tax Commissioners took these figures of Mr. Finlay of $1,460,000 and considered them, and considered the method by which he placed the value upon the mine, and then made a reduction of approximately $388,000 from those figures, making the assessment as fixed by the State Board of Tax Commissioners at $1,072,000, the State Board of Tax Commissioners having raised the property from $65,000 to $1,072,000. The im-
277 mense difference between Mr. Finlay's figures and the State Board of Tax Commissioners, approximately $388,000, shows conclusively that they did not accept all of his figures but made an enormous allowance from his figures; in fact, they cut them approximately 26 per cent., so that the State Board of Tax Commissioners assessed this property at 26 per cent. below its cash value as fixed by Mr. Finlay.

I find no evidence in this case which would justify the court in arriving at a conclusion that the State Board of Tax Commissioners acted fraudulently towards this plaintiff, or unjustly. The evidence all indicates that they used their best judgment and their honest endeavors, assisted by the state in having this expert employed and after an expenditure of many thousands of dollars in getting this information. I think there is but one conclusion, and that is that the State Board of Tax Commissioners acted fairly, honestly, and justly towards this plaintiff in arriving at this valuation upon the property in question and there is nothing to justify the court in setting aside their action and finding a verdict in favor of the plaintiff. I know of no way by which a more accurate or just method could be found for getting at the value of these mines.

The plaintiff seems to take the position, as, I think, mining men frequently do, that only the ore in sight, which in 1911 was reported by the plaintiff at 150,000 tons, could really be assessed. That would not be a fair basis of assessment. The evidence here shows that, including the years 1911 and 1912 and the probable shipments for 1913, there will have been 382,000 tons of ore shipped from the Sunday Lake mine, although they reported only 150,000 tons of ore in 1911, shows that the reported ore in sight does not by any means include all of the ore in a mine, and there must be some way of getting at the prospective ore which can be reasonably

counted upon and which has not been fully developed and
278 exposed to sight. Otherwise, by only placing a value upon the amount of ore which is actually in sight, the mining company by not proceeding to make developments ahead, could keep down the assessments to a very low figure; in fact, as indicated by the testimony in this case, it would not include anywhere near the amount of ore in the mine. I believe the testimony in this case justifies the conclusion from the experience of other mining companies in this county that Mr. Finlay was not wrong in basing his figures upon future developments and the assumption that that ore body would continue down in the ground. That is what Mr. Finlay did; he based his estimates upon results obtained throughout the entire Gogebic district. It seems to me that can be done, and if only the ore in sight each year can be legally assessed, then the state is deprived from getting fair taxation from these mining properties. If that is correct and they must assess only what the mining company has developed and in sight, it seems to me that it forces one to the conclusion that the tonnage tax system would be the only way by which the state could get a fair rate of taxation out of these mining companies. Of course, I am not holding that this system of only assessing what is actually in sight is correct. I believe the contrary is true and that Mr. Finlay's system is correct, and that is that you have a right to assume from all the circumstances and the conditions of the range and the past experience of this particular mining company in this particular iron mine that this iron ore formation continues down. Mr. Finlay did not by any means carry it down to where it has been developed by other mining companies. If he had, the assessment would have been several times what it is. For instance, if he had figured that this iron formation continued down to a depth of 2,000 feet, then certainly the value which he figured was a fair cash value would be very much less than the actual value of the mine, but he has not gone to the extreme of assuming that this property will have the same result that other mining
279 properties have had in their development but has only taken what he believed was reasonably determined, you might say beyond a doubt, beyond any reasonable doubt, at least, and having done this, I believe that the state board was justified in accepting his figures and I believe that no fairer figures could have been arrived at, but at that the state board did not accept his figures. They made an enormous cut of 26%, and under those circumstances, certainly there is no evidence which would justify the court in finding a verdict for this plaintiff.

I am just as well convinced that the state board had a right to proceed to hold this meeting for a special review. If their attention had been called to the matter soon enough to hold a general review, perhaps a different question might present itself; perhaps it might have been held necessary for them to proceed to make an investigation of the balance of the township, but at that late date when they had no time to make such a general review, and having had definite information brought to their attention that this particular property

was under-assessed, they had a right to proceed to do their duty and assess this particular property at its cash value in accordance with the statutes of Michigan.

Gentlemen of the jury, you will understand from what I have said that you are to render a verdict in favor of the defendant. Both sides have requested me to direct a verdict. The plaintiff requested me to direct a verdict for the plaintiff and the defendant for the defendant. I have concluded that the defendant is entitled to the verdict and you will therefore arise and return a verdict in favor of the defendant under the law.

To which ruling of the Court and direction to the jury so given, the said plaintiff by his attorneys then and there duly excepted.

And for as much as the matters and things herein set forth are not of record in this case, and to the end that the same may be
280 made matters of record herein, and in furtherance of justice, the plaintiff presents the foregoing as its bill of exceptions in this case and prays that the same may be settled and allowed and signed and certified by the Judge as prescribed by law.

And the said Circuit Judge at the request of counsel for the plaintiff and after due notice to the adverse party has settled this bill of exceptions, which contains the substance of all the testimony given at said trial which in any manner affects the exceptions therein noted. And it is hereby certified that so far as said testimony is set out in the foregoing bill of exceptions by question and answer it is necessary to a full understanding of the questions of law thereby raised. And that accompanying this bill of exceptions at the time of its settlement is a detailed assignment of all the alleged errors upon which plaintiff and appellant proposed to rely in the Supreme Court of Michigan.

Dated this 19th day of August, A. D. 1913.

SAMUEL S. COOPER,
Circuit Judge for the 32nd Judicial Circuit of Michigan.

STATE OF MICHIGAN:

The Circuit Court for the County of Gogebic.

SUNDAY LAKE IRON COMPANY
vs.
TOWNSHIP OF WAKEFIELD.

Plaintiff's Assignment of Errors.

Now comes the said plaintiff by William P. Belden, its attorney, with Horace Andrews of Counsel, and says there is manifest error in the record and proceedings in said cause in the following particulars, to-wit:

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281 1. The Court erred in permitting the witness, Benjamin F. Burtless to answer the following question asked on cross-examination by counsel for defendant, viz:

"Q. I will ask you if it would have been possible for the Board to have reviewed all the property in Gogebic County between October 2nd and the date set for the meeting of the Board of Supervisors in October, 1911?", to which question said counsel for plaintiff at the time objected, but said objection was over-ruled and an exception taken by plaintiff to the ruling of the court; whereupon said witness was allowed to answer as follows:

"A. No sir. In the first place the law would require a notice dated at least seven (7) days prior to the date of the hearing."

2. That the Court erred in permitting said witness, Burtless, on cross-examination to answer the following question asked by Counsel for Defendant, namely:

"Q. Mr. Burtless, you may state if a review of property other than mining property has been made by the Board of State Tax Commissioners and used by the State Tax Commissioners since 1911?", to which question Counsel for plaintiff at the time objected, but said objection was over-ruled, to which ruling said plaintiff noted an exception; whereupon said witness was permitted to answer as follows:

"A. Yes. A general review of all property of Gogebic County was held during the year 1912."

3. That said Court erred in refusing to grant the motion made by said plaintiff to direct a verdict in its favor.

4. That said Court erred in granting the motion of said defendant to direct a verdict in its favor.

5. That said Court erred in charging and directing the jury as follows:

"I find no evidence in this case which would justify the Court in arriving at a conclusion that the State Board of Tax Commis-
282 sioners acted fraudulently towards this plaintiff, or unjustly. The evidence all indicates that they used their best judgment and their honest endeavors, assisted by the state in having this expert employed and after an expenditure of many thousands of dollars in getting this information. I think there is but one conclusion, and that is that the State Board of Tax Commissioners acted fairly, honestly and justly towards this plaintiff in arriving at this valuation upon the property in question and there is nothing to justify the Court in setting aside their action and finding a verdict in favor of the plaintiff. I know of no way by which a more accurate or just method could be found for getting at the value of these mines."

6. That the said Court erred in charging and directing the jury as follows:

"I believe * * * that Mr. Finlay's system is correct * * *

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and that the State Board was justified in accepting his figures, and I believe that no fairer figures could have been arrived at, but at that the State Board did not accept his figures. They made an enormous cut of 26%, and under those circumstances, certainly there is no evidence which would justify the Court in finding a verdict for this plaintiff."

7. That the said Court erred in charging and directing the jury as follows:

"I am just as well convinced that the State Board had a right to proceed to hold this meeting for a special review. If their attention had been called to the matter soon enough to hold a general review, perhaps a different question might present itself; perhaps it might have been held necessary for them to proceed to make an investigation of the balance of the township, but at that late date when they had no time to make such a general review, and having had definite information brought to their attention that this particular property was under-assessed, they had a right to proceed to do their duty and assess this particular property at its cash value in accordance with the statutes of Michigan."

283 8. That said Court erred in entering a judgment in said cause for said defendant instead of entering judgment for plaintiff.

WILLIAM P. BELDEN,
Plaintiff's Attorney.
HORACE ANDREWS,
Of Counsel.

284 PLAINTIFF'S EXHIBIT 5.

Board of State Tax Commissioners.

Office of Appraiser of Mines, Houghton, Michigan.

Class—Iron Mines.

Date of Answer to inquiry. ——.

Name of Company. The Sunday Lake Iron Company.
Name of President. E. A. S. Clarke, Lackawanna, N. Y.
Secretary. H. S. Haselton, Western Reserve Bldg., Cleveland, Ohio.
Treasurer. H. G. Dalton, Western Reserve Bldg., Cleveland, Ohio.
Please fill in
General Manager. C. H. Munger, Lonsdale Bldg., Duluth, Minn.
Superintendent. C. E. Walton, Wakefield, Mich.
Chief Cler. —— ——.
General Counsel. Hoyt, Dustin, Kelley, McKeehan & Andrews, Cleveland, Ohio.

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PLAINTIFF'S EXHIBIT 5

SUNDAY LAKE IRON COMPANY. Appendix to Return Made by Them to Board of State Tax Commissioners, State of Michigan.

	1906.		1907.		1908.		1909.		1910.	
Inquiry 1. How many men employed, include all classes up to General Manager?	137		171		169		142		150	
2. What is the sum total of wages and salaries paid for each of the past 5 fiscal years?	$90,703.16.		$123,728.26		$121,617.92		$102,593.36		$112,265.40	
3. What have been the expenditures for each of the past 5 years for the following items?	Total.	Per Ton	Total.	Per Ton	Total.	Per Ton	Total.	Per Ton	Total.	Per Ton
A. General Expense.										
Administration.	5,083.48	.0623	$ 5,179.26	.0528	$ 5,358.68	.0433	$ 4,087.97	.0441	$ 2,836.60	.0248
Insurance.	249.61	.0031	231.85	.0023	335.42	.0028	269.20	.0029	155.43	.0014
Legal Expense.	241.96	.0030	173.80	.0018	145.00	.0012	30.00	.0003	78.04	.0007
Taxes.	2,109.06	.0259	2,742.42	.0268	3,182.88	.0265	3,824.48	.0416	6,219.24	.0562
Interest, Etc.	1,817.87	.0223	917.70	.0090	1,930.11	.0158	1,459.77	.0157	1,738.46	.0152
Miscellaneous.	1,245.05	.0145	1,346.73	.0133	606.35	.0055	405.93	.0044	650.64	.0047
B. Mining, including operating expenses up to and including loading on cars.	$121,115.84	1.4850	$147,653.48	1.4455	$172,934.33	1.4404	$134,151.67	1.4590	$148,804.12	1.3440
C. Explorations.	3,629.48	.0445	2,263.43	.0221	1,420.00	.0118	.....	....	217.37	.0020
D. Development.	6,156.23	.0755	18,218.70	.1784	5,520.35	.0459	11,629.89	.1265	12,237.73	.1105
* E. Construction.	4,531.20	.0556	6,630.37	.0649	9,251.67	.0770	9,519.16	.1035	12,446.73	.1124
F. Amount paid for rail freight.	34,751.77	.4000	40,759.59	.4000	44,452.36	.4000	37,484.94	.4000	46,194.38	.4000
G. Amount paid for lake freight.	64,509.00	.7500	75,657.00	.7500	71,513.00	.6500	60,465.85	.6518	85,749.75	.7500
H. Amount paid for selling com.	4,859.86	.0500	4,900.91	.0500	6,110.59	.0500	4,505.25	.3568	5,716.65	.0500
I. Amount paid for royalty.	28,586.06	.3290	39,570.21	.3956	38,261.57	.3439	33,433.85	.3568	45,515.31	.3941
Total,	$278,886.47	3.3207	$346,235.45	3.4125	$361,022.31	3.1146	$301,267.96	3.2566	$368,560.46	3.2660
o 4. What was the number of tons and approximate analyses of ore shipped and sold in each of the past 5 fiscal years?										
Sold f. o. b. mine.					110 Tons					
Cleveland	75,242 Tons		98,018 Tons		122,150 Tons		92,738 Tons		114,333 Tons	
Total,	75,242 Tons		98,018 Tons		122,260 Tons		92,738 Tons		114,333 Tons	
Percentage of Iron. Percentage of Phosphorus.	59.36 Dry 54.26 Nat'l. .025		57.37 Dry 52.72 Nat'l. .023		57.15 Dry 52.97 Nat'l. .026		59.01 Dry 53.94 Nat'l. .027		59.70 Dry 54.45 Nat'l. .027	
o 5. What sum was realized in total and per ton giving figures as if delivered at Cleveland.	Amount	Per Ton	Amount	Per Ton	Amount	Per Ton	Amount	Per Ton	Amount	Per Ton
Sales f. o. b. mine.					$ 394.90	3.5900				
Cleveland.	$321,264.84	4.2698	$480,520.66	4.9024	556,290.54	4.5542	$428,673.52	4.6224	$573,615.51	5.0170
Amount as if delivered at Cleveland.	$321,264.84	4.2698	$480,520.66	4.9024	$556,806.44	4.5543	$428,673.52	4.6224	$573,615.51	5.0170
* The amounts shown above are those charged into costs as "Depreciation." The amounts actually expended during these years were:										
Shafts (Included in "Development.)										
Buildings.	$ 414.38		$ 2,750.28		$905.62		$ 413.51		$2,546.55	
Machinery.	13,216.82		14,980.09		746.05		15,605.65		3,325.18	
o The tons shipped and sold, used in the above answers "4" and "5" are the amounts actually delivered to customers in these years. The tonnages shipped from the mine were as follows:	86,880 Tons		101,900 Tons		111,241 Tons		93,712 Tons		115,486 Tons	
The differences being ore held at Lake Erie docks not delivered to customers at December 31st.										

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Please answer the following question- in order and in case the company operates several separate mines, make answers separately for each of them, specifying the name of the mine.

1. How many men employed, include all classes up to General Manager?.....See Appendix.

2. What is the sum total of wages and salaries paid for each of the past five fiscal years.....See Appendix.

3. What have been the expenditures for each of the past five years for the following items?.....See Appendix.

	Total.	Per ton.
a—General Expenses.		
Administration.		
Insurance.		
Legal Expenses.		
Taxes.		

(Here follows table marked page 284½.)

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285 Interest, etc.
Miscellaneous.
b—Mining including operating expenses up to and including load- on the cars.
c—Exploration.
d—Development.
e—Construction.
Shafts.
Buildings.
Machinery.
f—Amount paid for rail freight.
g—Amount paid for lake freight.
h—Amount paid for Selling Commissions.
i—Amount paid for Royalty.
Total.

4. What was the number of tons and approximate analysis of ore shipped and sold in each of the past five fiscal years? Give percentage, both natural and dry.....See Appendix.

5. What sum was realized in total and per ton for each of the last five fiscal years, giving figures as if delivered at Cleveland. In case sales were made on some other basis, state exactly the manner of disposal of product and the amount received?.....See Appendix.

6. Give description separately for each mine belonging to the company of each tract or tracts now being mined for iron ore (specifying number of acres, townships, range, section and sub-division of section, also its distance from nearest town and railroad, or railroads, by which it is reached).

Sunday Lake Mine: W. ½ of Sec. 10-47-45, Gogebic County, Mich., containing about 320 acres, located at Wakefield, Mich., on C. & N. W. R'y. Co.

7. How much ore and of what grade can reasonably be
286 counted on for each of these tracts? If there is a considerable variation in the grade of the ore, state the amounts calculated for the different specified grades. Describe the developments on which estimates are based.

Est'd ore above bottom level May 1, 1911.	Est'd analyses. Iron.	Dry phos.	Ore in stock May 1, 1911.	Analyses. Iron.	Dry phos.	Est'd ore below bottom level.
40,000 tons	58.00	.090	9,715 tons	58.12	.093	
110,000 tons	60.00	.027	25,313 tons	60.50	.027	100,000 tons

8. Describe similarly any additional tracts owned or controlled by the company and known to contain ore, but which have not yet been brought to the shipping stage. None.

9. State the nature of the developments or explorations and the amount and grade of ore, reasonably known to be on these tracts, specifying the grades as above. None.

PLAINTIFF'S EXHIBIT 6

BROTHERTON IRON MINING COMPANY. Appendix to Return Made by Them to Board of State Tax Commissioners, State of Michigan.

	1906.		1907.		1908.		1909.		1910.	
Inquiry 1. How many men employed, include all classes up to General Manager?	228		197		153		143		155	
2. What is the sum total of wages and salaries paid for each of the past 5 fiscal years?	$149,614.41		$146,441.69		$111,738.20		$103,658.82		$116,281.58	
3. What have been the expenditures for each of the past 5 years for the following items?	Total.	Per Ton	Total	Per Ton	Total	Per Ton	Total	Per Ton	Total	Per Ton
A. General Expense.										
Administration.	5,275.72	.0378	$ 5,321.49	.0512	$ 5,597.68	.0548	$ 4,229.65	.0403	$ 2,998.84	.0297
Insurance.	197.32	.0014	269.18	.0026	301.81	.0031	275.97	.0025	170.23	.0015
Legal Expense.	233.60	.0017	38.20	.0004	25.00	.0002	43.40	.0004	33.94	.0003
Taxes.	4,162.39	.0299	3,727.78	.0359	4,855.15	.0506	5,706.00	.0525	9,152.87	.0786
Interest, Etc.	.....	.....	3,243.82	.0312	4,178.19	.0410	1,102.24	.0105	1,290.64	.0128
Miscellaneous.	1,118.15	.0076	1,448.58	.0140	594.43	.0061	577.03	.0057	594.70	.0047
B. Mining, including operating expenses up to and including loading on cars.	$169,277.18	1.2145	$166,272.88	1.6003	$129,732.95	1.3530	$118,147.79	1.0880	$121,549.95	1.1294
C. Exploration.	6,236.02	.0448	1,308.56	.1279	1,921.50	.0200	.....	.....	217.37	.0019
D. Development.	21,283.23	.1527	32,189.07	.3096	23,850.62	.2487	22,601.37	.3081	27,214.88	.2336
E. Construction.	9,739.57	.0698	11,609.86	.1117	13,895.48	.1448	14,388.21	.1325	14,702.27	.1262
F. Amount paid for rail freight.	58,912.58	.4000	41,610.00	.4000	38,732.03	.4000	41,235.81	.4000	41,040.73	.4000
G. Amount paid for lake freight.	109,355.25	.7500	77,238.75	.7500	62,310.30	.6500	66,518.11	.6518	76,066.50	.7483
H. Amount paid for selling com.	8,363.81	.0500	4,836.43	.0500	5,092.89	.0500	5,253.13	.0501	5,033.35	.0500
I. Amount paid for royalty.	48,101.81	.3270	40,738.23	.3908	36,130.07	.3733	39,381.86	.3820	49,392.82	.4813
Total,	$442,311.63	3.0873	$401,942.83	3.8756	$327,218.10	3.3956	$319,460.57	3.0244	$359,459.09	3.2989
4. What was the number of tons and approximate analyses of ore shipped and sold in each of the past 5 fiscal years? Sold f. o. b. mine.	145,527 Tons		96,729 Tons.		145 Tons		102,174 Tons		24 Tons	
Cleveland					101,858 Tons				100,643 Tons	
Total,	145,527 Tons		96,729 Tons.		102,003 Tons		102,174 Tons		100,667 Tons	
Percentage of iron. Percentage of Phosphorus.	58.47 Dry 53.10 Nat'l. .029		56.23 Dry 51.76 Nat'l. .023		58.63 Dry 54.31 Nat'l. .024		60.71 Dry 55.54 Nat'l. .027		62.36 Dry 57.12 Nat'l. .025	
5. What sum was realized in total and per ton giving figures as if delivered at Cleveland. Sales f. o. b. mine.	Amount	Per Ton	Amount	Per Ton	Amount	Per Ton	Amount	Per Ton	Amount	Per Ton
Cleveland.	$606,735.45	4.1693	$464,498.78	4.8021	$ 532.15	3.6700			$ 99.55	4.1667
					480,199.97	4.7144	$486,980.94	4.7662	553,826.05	5.5029
Amount as if delivered at Cleveland.	$606,735.45	4.1693	$464,498.78	4.8021	$480,891.62	4.7145	$486,980.94	4.7662	553,954.40	5.5028
The tons shipped and sold, used in the above answers "4" and "5" are the amounts actually delivered to customers in these years. The tonnages shipped from the mine were as follows:	147,279 Tons		104,224 Tons.		96,775 Tons		103,089 Tons		102,626 Tons	
The differences being ore held at Lake Erie docks not delivered to customers at December 31st.										
The amounts shown above are those charged into costs as "Depreciation." The amounts actually expended during these years were:										
Shafts (included in "Development.)										
Buildings.	$5,542.42		$ 3,884.53		$5,252.24		$1,410.83		None	
Machinery.	6,787.15		11,625.33		3,835.74		987.38		$3,002.27	
This includes the expenditures made out of the profits of this company in connection with explorations outside of the lands on which this mine is located.										

286 1/2

10. Describe lands, if any, owned by the company on which iron formation is known to occur but on which there have been no discoveries of merchantable ore. —None.

11. State what lands if any on which the company owns or controls mineral rights, but of which the surface has been sold to other parties. None.

12. State what further property the company owns for the further pursuit of the iron business, specifying railroads and equipment, steamboats and barges, blast furnaces, etc., including only properties in Michigan. None.

13. Schedule of non-mineral lands. Give number of acres owned but not descriptions. 28/66ths interest in 440 acres.

(Here follows table marked page 286½.)

287 PLAINTIFF'S EXHIBIT 6.

Board of State Tax Commissioners.

Office of the Appraiser of Mines, Houghton, Mich.

Class—Iron Mines.

Date of Answer to inquiry. ——.

Name of Company. Brotherton Iron Mining Company.
Name of President. E. A. S. Clarke, Lackawanna, N. Y.
Secretary. H. S. Haselton, Western Reserve Bldg., Cleveland, Ohio.
Treasurer. H. G. Dalton, Western Reserve Bldg., Cleveland, Ohio.
Please fill in
General Manager. C. H. Munger, Lonsdale Bldg., Duluth, Minn.
Superintendent. C. E. Walton, Wakefield, Mich.
Chief Clerk. —— ——.
General Counsel. Hoyt, Dustin, Kelley, McKeehan & Andrews, Cleveland, Ohio.

Please answer the following questions in order and in case the company operates several separate mines, make answers separately for each of them, specifying the name of the mine.

1. How many men employed, include all classes up to General Manager?.....See Appendix.

2. What is the sum total of wages and salaries paid for each of the past five fiscal years.....See Appendix.

3. What have been the expenditures for each of the past five years for the following items?.....See Appendix.

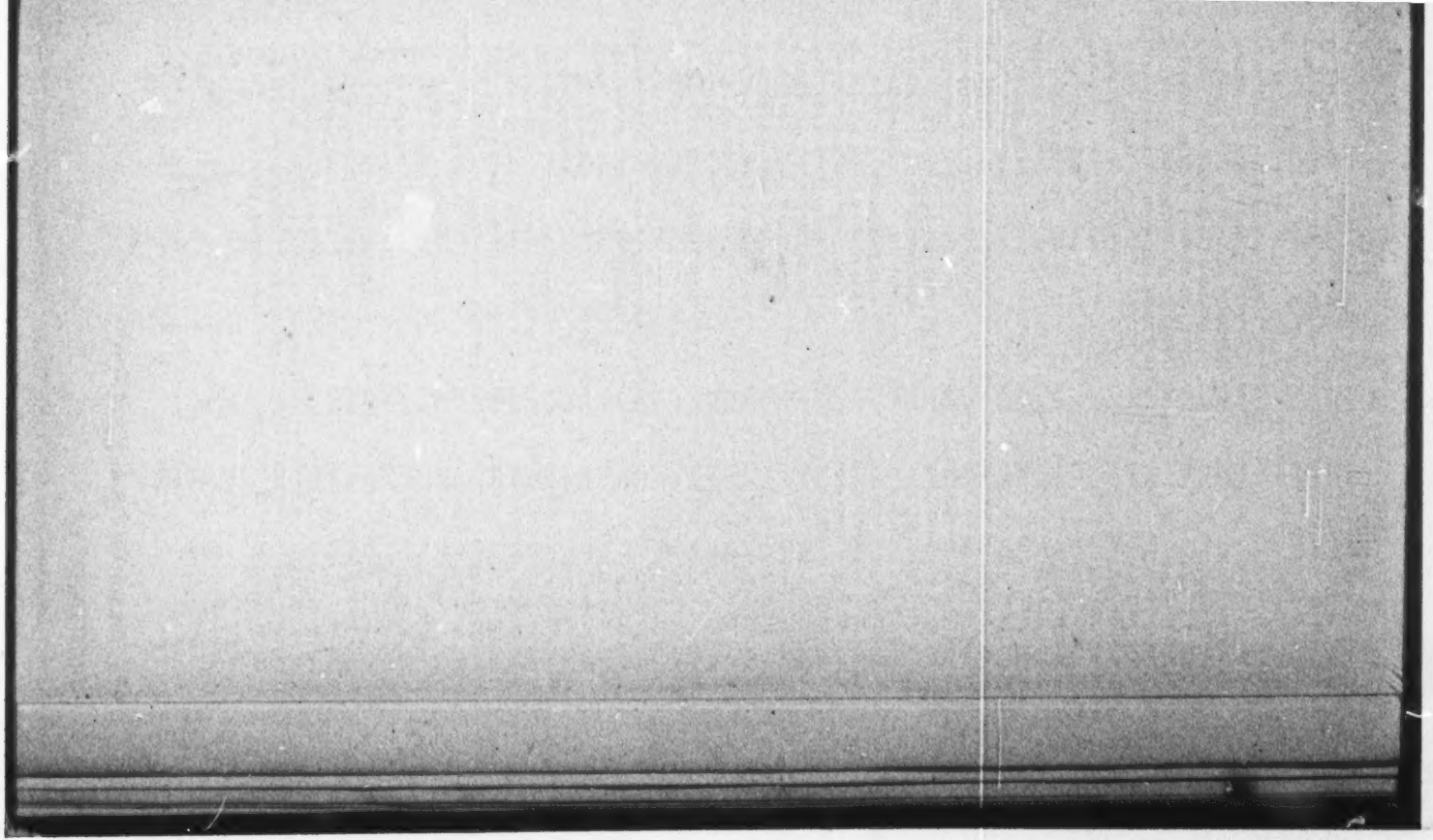
	Total.	Per ton.
a—General Expenses.		
Administration.		
Insurance.		
Legal Expenses.		
288 Taxes.		
Interest, etc.		
Miscellaneous.		
b—Mining including operating expenses up to and including loading on the cars.		
c—Exploration.		
d—Development.		
e—Construction.		
Shafts.		
Buildings.		
Machinery.		

PLAINTIFF'S EXHIBIT 12

Comparative Reviews of Township Property—Wakefield

Owner's Name	Description	Section	Town	Range	Value by Assessor 1911	Value by Board 1911	Taxes 1911	Value by Assessor 1912	Value by Board 1912	Value determined by the Board of State Tax Commissioners 1913
Keweenaw Land Association	NE¼ of NE¼	1	47	44	$200	$200	$5.90	$600	$600	850
Continental Mineral Land Company	NE¼ of NE¼	2	47	44	200	200	5.90	590	590	925
Continental Mineral Land Company	SW¼ of NE¼	2	47	44	180	200	5.90	550	550	1050
Tula Lumber Company	NW¼ of SE¼	4	47	44	200	100	2.95	550	550	1450
J. M. Longyear	NW¼ of SW¼	6	47	44	180	200	5.90	560	560	675
J. M. Longyear	SW¼ of NW¼	7	47	44	180	180	5.34	560	560	1250
Oliver Iron Mining Company	SW¼ of NW¼	10	47	44	225	225	6.69	360	360	1400
E. W. Sparrow	NE¼ of SW¼	12	47	44	160	200	5.90	560	560	1275
E. P. Sawyer, et al	NE¼ of NE¼	22	47	44	280	280	8.29	620	620	980
D. McGininty, Trustee	NE¼ of S W¼	1	48	44	240	240	7.12	580	580	900
D. McGininty, Trustee	NE¼ of NE¼	7	48	44	260	260	7.70	600	600	1050
J. M. Longyear	NE¼ of SE¼	9	48	44	260	260	7.70	600	600	925
Continental Mineral Land Company	NW¼ of NE¼	11	48	44	260	100	2.95	590	590	160
Oval Wood Dish Company	NE¼ of SW¼	18	48	44	300	300	8.85	660	660	1300
J. M. Longyear, et al	NE¼ of SE¼	28	48	44	225	180	5.34	600	600	525
George Rupp	NE¼ of SE¼	36	48	44	225	300	8.85	580	580	300
Keweenaw Land Association	NE¼ of NE¼	1	47	45	300	300	8.85	700	600	2225
J. S. Newberry	NE¼ of NE¼	2	47	45	400	400	11.80	800	800	1500
G. F. Coleman	NE¼ of SE¼	2	47	45	700	600	17.70	790	790	1425
Oscar Hill	SW¼ of SW¼	3	47	45	100	100	2.95	290	290	400
Keweenaw Land Association	SE¼ of SW¼	3	47	45	300	300	8.85	800	800	1425
Lake Superior Iron & Chemical Company	NE¼ of SE¼	4	47	45	400	400	11.80	800	800	1075
Nester Filppula	SE¼ of SW¼	4	47	45	100	100	2.95	300	300	600
Gust Hill	SE¼ of SE¼	4	47	45	100	100	2.95	300	300	800
Keweenaw Land Association	NW¼ of NE¼	5	47	45	500	500	14.75	800	800	1225
W. S. Peters	SW¼ of NW¼	5	47	45	500	500	....	800	800	1225
W. S. Peters	NW¼ of NW¼	5	47	45	500	500	....	800	800	725
Keweenaw Land Association	SW¼ of SW¼	5	47	45	500	500	....	800	500	750
Keweenaw Land Association	NW¼ of NE¼	7	47	45	500	500	....	890	890	1700
Keweenaw Land Association	NE¼ of NE¼	7	47	45	500	500	....	890	890	1575
Keweenaw Land Association	SW¼ of SW¼	7	47	45	100	100	....	290	290	675
Keweenaw Land Association	(fractional) NE¼ of SW¼	9	47	45	500	500	....	1000	1000	1200
Keweenaw Land Association	(fractional) NW¼ of SW¼	9	47	45	500	500	....	1000	1000	1000
Keweenaw Land Association	(fractional) SW¼ of SW¼	9	47	45	200	200	....	400	400	500
Keweenaw Land Association	(fractional) SE¼ of SW¼	9	47	45	200	200	....	400	400	3000
John Toume	E½ of NE¼ of NW¼	9	47	45	50	50	....	160	160	1400
Keweenaw Land Association	SE¼ of NE¼	15	47	45	700	600	17.70	900	900	2625
John Simonson (Victor Maki '12)	(fractional) SE¼ of SE¼	15	47	45	100	100	2.95	250	250	800
Mrs. Zawaski	(fractional) NW¼ of NW¼	16	47	45	100	100	....	900	900	1100
Joe Herbeck	NW¼ of NW¼	16	47	45	200	350	....	1600	2000	2800
John Hanousek	NE¼ of SE¼	18	47	45	100	100	....	450	450	300
John Hanousek	NW¼ of SE¼	18	47	45	100	100	....	400	400	1000
John Hanousek	SW¼ of SE¼	18	47	45	100	100	....	300	300	600
John Hanousek	SE¼ of SE¼	10	47	45	100	100	....	300	300	600
G. F. Sanborn	NW¼ of SW¼	18	47	45	100	100	....	600	600	2000
J. F. Finnegan	NE¼ of SW¼	18	47	45	100	100	....	600	600	700
Sam Hill	SW¼ of SW¼	18	47	45	100	100	....	300	300	600
Sam Hill	SE¼ of SW¼	18	47	45	100	100	....	500	500	2400
Henry Rongi	NE¼ of NE¼	22	47	45	100	100	2.95	400	400	400
Lake Superior Iron & Chemical Company	NW¼ of NE¼	22	47	45	600	600	17.70	900	900	1775
Keweenaw Association (W. D. Connors, 1912)	NE¼ of NE¼	5	48	45	180	200	5.90	500	500	725
Michigan Bark & Lumber Company	NE¼ of NE¼	14	48	45	240	260	7.70	590	590	875
Porcupine Association, Limited	NE¼ of SE¼	18	48	45	225	260	7.70	500	500	875
Michigan Bark & Lumber Company	NE¼ of SW¼	34	48	45	400	400	11.80	750	750	825
Keweenaw Land Association	SE¼ of SE¼	35	48	45	280	300	8.85	760	760	725
Keweenaw Land Association	NE¼ of NE¼	3	49	45	160	200	5.90	500	500	900
W. D. Connors	NE¼ of NW¼	13	49	45	160	200	5.90	490	490	825
T. P. Brown	NE¼ of NE¼	1	50	45	280	280	8.29	500	500	550
J. M. Longyear	(entire fractional)	19	50	45	220	280	8.29	540	540	390
W. D. Connors, et al	NE¼ of NE¼	36	50	45	160	200	5.90	490	490	980

288½



f—Amount paid for rail freight.
g—Amount paid for lake freight.
h—Amount paid for Selling Commissions.
i—Amount paid for Royalty.
Total.

4. What was the number of tons and approximate analysis of ore shipped and sold in each of the past five fiscal years? Give percentage, both natural and dry.....See Appendix.

5. What sum was realized in total and per ton for each of the last five fiscal years, giving figures as if delivered at Cleveland. In case sales were made on some other basis, state exactly the manner of disposal of product and the amount received?.....See Appendix.

6. Give description separately for each mine belonging to the company of each tract or tracts now being mined for iron ore (specifying number of acres, townships, range, section and sub-division of section, also its distance from nearest town and the railroad, or railroads, by which it is reached).

Brotherton Mine: S. E. ¼ of the N. E. ¼ and N. ½ of S. E. ¼, Sec. 9-47-45, Gogebic County, Mich., containing about 120 acres, located at Wakefield, Mich., on C. & N. W. R'y Co.

(Here follows table marked page 288½.)

289 7. How much ore and of what average grade can reasonably be counted on for these tracts? If there is a considerable variation in the grade of the ore, state the amounts calculated for the different specified grades. Describe the developments on which estimates are based.

Est'd ore above bottom level May 1, 1911.	Est'd analyses. Iron.	Dry phos.	In stock May 1, 1911.	Analyses. Iron.	Dry phos.	Est'd ore below bottom level.
40,000 tons	61.00	.070	23,746 tons	61.44	.070	
55,000 tons	62.00	.027	33,747 tons	63.59	.027	50,000 tons

8. Describe similarly any additional tracts owned or controlled by the company and known to contain ore, but which have not yet been brought to the shipping stage. None.

9. State the nature of the developments or explorations and the amount and grade of ore, reasonably known to be on these tracts, specifying the grades as above. None.

10. Describe lands, if any, owned by the company on which iron formation is known to occur but on which there have been no discoveries of merchantable ore. None.

11. State what lands if any on which the company owns or controls mineral rights, but of which the surface has been sold to other parties. None.

12. State what further property the company owns for the further pursuit of the iron business, specifying railroads and equipment, steamboats and barges, blast furnaces, etc., including only properties in Michigan. None.

13. Schedule of non-mineral lands. Give number of acres owned but not descriptions. 28/66th- interest in 440 acres.

PLAINTIFF'S EXHIBIT 14.

To Matt Lahti, Treasurer of Township of Wakefield, County of Gogebic, and State of Michigan.

SIR: The Undersigned, the Sunday Lake Iron Company, a corporation organized under the laws of the State of Michigan, and doing business in Michigan, hereby remits and pays to you,
290 under protest, however, the sum of $31,910.45, being the amount of the tax as levied and assessed for the year 1911 against the following described lands and property:—

West half of the west half of Section 10, Township 45 North, Range 45 west, containing 160 acres, such property being commonly known as the Sunday Lake Mine.

The east half of the southwest quarter of Section 10, Township 45 North, Range 45 west, containing 80 acres, commonly known as the Iron Chief Mine.

The undersigned denies the validity of said taxes and of the assessment upon which the same are based, and denies your right

to collect the same, and makes such payment under protest for the following reasons, to-wit:

1. That the assessment made upon the above described property for the year 1911 was and is largely in excess of the true cash value of said property, and that such assessment was fixed and made by the Board of State Tax Commissioners of Michigan, in, to-wit, October, 1911, with full knowledge that such assessment was excessive and with the intention of assessing said property at more than its true cash value, notwithstanding the protests and objections thereto made before said Board in behalf of the undersigned, and the representations then and there made in its behalf as to the real facts in respect to the value of such property. That the calculations of the value of said property used by said Board of State Tax Commissioners in making said assessment, and upon which the same is to a large extent based, were and are grossly erroneous, that the same were based upon incorrect and unjustifiable assumptions in violation of all proper principles or methods of estimating or determining the value of iron mining properties, and that the conclusions reached were largely in excess of the real or actual value of said property; that said errors and the erroneous assumptions upon which such calculations were based, were brought to the attention of said
291 Board of State Tax Commissioners by the undersigned at a session of said Board held at Bessemer, Michigan, on the 2nd day of October, 1911, before said assessment was made, but that nevertheless said Board of State Tax Commissioners with full knowledge of said inaccuracies and of the unreliable character of said calculations used and largely adopted the same in making and fixing the assessment upon which said taxes were based; by reason of which said assessment was and is illegal, unjust and inequitable.

2. That real and personal property (other than iron mining properties) located in the Township of Wakefield, in said County and State, was generally and intentionally under-valued and under-assessed by the assessing officer of said Township of Wakefield in preparing the assessment roll for the year of 1911; that large amounts of personal property subject to taxation under the laws of Michigan were intentionally omitted from said tax roll and that the assessment of such real and personal property in said Township of Wakefield (other than iron mining properties) as confirmed and approved by the Board of Review thereof, were made and fixed at not exceeding one-third of the true cash value of such property respectively, and that this statement is generally true of each and all of the assessments of real and personal property (other than iron mining properties) so made on said tax roll for the year 1911.

That at the meeting of the Board of State Tax Commissioners held at Bessemer in said County, on the 2nd day of October, 1911, the undersigned filed written complaints before said Board, alleging and setting forth the general and intentional under-assessment of such real and personal property for the year 1911 and the omissions above referred to, and requested that such erroneous, unjust and inequitable assessments and such omissions from the tax roll be reviewed and corrected in accordance with the tax laws of the State of Michigan

and then and there offered to present proofs of the claims
292 and allegations so made in such written complaint, but that said Board of State Tax Commissioners disregarded such protests, claims and statements so made in behalf of the undersigned, and would not give the undersigned an opportunity to present the proofs and evidence so offered and would not and did not review or correct such inequitable and illegal assessments and the omissions so complained of, but, though well knowing the truth of the allegations so made and the facts in respect to such assessments, permitted them to stand and remain on the tax roll of 1911 as made, but nevertheless raised the assessment made by such local assessing officer on the property of the undersigned above described and referred to, to an amount grossly in excess of the true cash value of its said property; by reason of which action of the Board of State Tax Commissioners an unequal proportion of the burden of taxation for said Township of Wakefield for the year 1911 has been placed upon the property of the undersigned, contrary to the statute in such case made and provided.

And that the gross inequality between the excessive assessments so made upon the property of the undersigned and the intentional under-assessment and the omission of property other than iron mining properties, invalidates the assessment so made against the property of the undersigned, and it pays the taxes thereon under protest as aforesaid.

We therefore direct and request that you minute the fact of such protest on the tax roll in entering the payment of the taxes on the property described, and that in addition thereto you specify the same in receipt given us therefor.

Dated this 9th day of January, 1912.

SUNDAY LAKE IRON COMPANY,
By L. M. HARDENBURG, *Gen. Sup't.*

(Here follow maps marked pages 293, 293½, and 294.)

MAPS

TOO

LARGE

FOR

FILMING

295 *Extracts from Mining Lease Introduced in Evidence and Referred to on Page* 138 *of This Record.*

STATE OF MICHIGAN,
County of Gogebic, ss:

I, Alex. Strom, Register of Deeds for said County, do hereby certify, that in the Mining Lease covering West Half (W. ½) of Section Ten (10), Town Forty-Seven (47) North, of Range Forty-Five (45) West, dated the 18th day of February, A. D. 1899, and executed by George M. Wakefield and E. F. Wakefield, his wife, as parties of the first part, to Joseph Sellwood, John H. Bartow and M. M. Drake, as parties of the second part, the covenant as to payment of taxes reads as follows:

"And the said parties of the second part do further covenant and agree that they will pay as and when the same shall become due and payable, and save and indemnify the party of the first part, his heirs, executors, administrators and assigns from and against all public taxes and assessments whatsoever, whether general, special, specific or otherwise which shall be assessed, levied or payable for, upon or on account of said demised premises, or any part thereof, or any ores or other product thereof, or any property or improvements that may be thereon, or any business or occupation that may be pursued or carried on upon said premises during the term aforesaid or the continuance of this tenancy, and do further covenant and agree to pay such taxes or assessments as soon as the same become due and payable, and that the parties of the first part may treat this as a covenant to pay or to indemnify for any particular year or for any particular tax at his election";

as appears from the record of said lease in my office; that the above copy of said covenant is a true and correct transcript from the record of said lease and of the whole of said covenant, and that the instrument of part of which the foregoing is a copy was recorded on the third day of November, A. D. 1899, at 9 o'clock a. m. in Liber Ten of Deeds on pages 81 to 90 inclusive.

In testimony whereof, I have hereunto set my hand and affixed my official seal at Bessemer, Michigan, this 27th day of August, A. D. 1913.

[SEAL.]

ALEX. STROM,
Register of Deeds.

296 *Extracts from Mining Lease Introduced in Evidence and Referred to on Page* 139 *of This Record.*

STATE OF MICHIGAN,
County of Gogebic, ss:

I, Alex. Strom, Register of Deeds for said County, do hereby certify, that in the Mining Lease covering West Half (W. ½) of

Section Ten (10), Town Forty-Seven (47) North, of Range Forty-Five (45) West, dated the 18th day of February, A. D. 1899, and executed by Gordon H. Gile, Mary M. Happ, R. C. Russell, Frances H. Cornish, Almeda F. Gallup, Adaline Fisk, Richard Guenther, Frank H. Mead, Phebe Ripley, Julia L. Stanhilber, Ole Olesen Trustee, Charles F. Pfister and Edward Aschermann as parties of the first part, to Joseph Sellwood, John H. Bartow and M. M. Drake as parties of the second part, paragraph ten reads as follows:

"Tenth. The parties of the second part agree to pay all taxes general or specific, upon the lands so demised, which may be assessed, either against said land and the improvements thereon, or the iron ore produced thereof, or any personal property at said mine belonging to said second party, from and after the date hereof, and while this lease shall continue in force, which taxes they agree to pay within the time allowed the town treasurer or city treasurer, to whom said taxes are payable, for collection, and at the termination of this lease to quietly and peaceably surrender the possession of said land to the parties of the first part";

as appears from the record of said lease in my office; that the above copy of said paragraph ten is a true and correct transcript from the record of said lease and of the whole of said original paragraph and that the instrument of part of which the foregoing is a copy was recorded on the 3rd day of November, A. D. 1899, at 9 o'clock a. m. in Liber Ten of Deeds, on pages 65 to 80 inclusive.

In testimony whereof, I have hereunto set my hand and affixed my official seal at Bessemer, Michigan, this 27th day of August A. D. 1918.

[SEAL.]

ALEX. STROM,
Register of Deeds.

MISSING PA

APPRAISAL 197

OF

MINING PROPERTIES

OF

MICHIGAN

BY THE

STATE BOARD OF TAX COMMISSIONERS

Under provisions of Act No. 114, of the Public Acts of 1911.

LANSING, MICHIGAN
WYNKOOP HALLENBECK CRAWFORD CO., STATE PRINTERS
1911.

PAGES

New York City, August 18, 1911.

Board of State Tax Commissioners of Michigan, Lansing, Michigan:

Gentlemen:—I respectfully submit herewith my report on the Appraisal of the various Mines of Michigan, with comments on certain properties which, at the beginning of the investigation, it was thought might be classed as mines, but which, at the end, I believed should be classed as manufacturing concerns.

I transmit herewith the following documents, which are the basis of my report, and should be considered a part of it:

1. 83 Copper Mine Reports and a card index, giving a list of all Copper Companies, and a guide to report numbers, as well as a record of correspondence on Copper.
   On these reports a memorandum of valuation is entered in red pencil, except in the case of the Quincy Mine, which made no report, all data on this concern being secured by personal examination.
   A Book of Charts of 5-Year Summaries of Michigan Copper Mines, taken from published annual reports.
   A Chart showing the record of money spent in the past five years by Copper Companies reporting, and their receipts from sale of Copper.
   Original Pencil Copy Maps and Tracings, showing ownerships along the Copper Belt. Numbers enclosed in circle on plats are used instead of the name of owners. For example: No. 36 indicates land owned by St. Mary's Mineral Land Company. On each Plat the name of owner will occur once, with the reference number.
2. 51 Reports of Iron Mining Companies, covering more than 100 mines, on which a red pencil memorandum showing the valuation of each will be found, also a Card Index.
   The alphabetical list on this Card Index refers to the card number of the mines. On this card will be found records of shipments and numbers referring to the companies' reports.
   Book of Blue Prints, showing ownerships of Iron Lands and location of ore bodies, by C. K. Leith.
   2 Lists of Ownerships of Iron Lands and descriptions of lands, by C. K. Leith.
3. Reports of Coal Companies.
4. 28 Reports by Salt, Cement, Gypsum, and Miscellaneous Companies.
   13 Plats of Salt Land Ownerships, covering 29 properties, with reports by C. W. Cook.
   3 Plats covering 9 Gypsum Ownerships, and reports by Horace F. Lunt.

24 Plats of Cement Ownerships, covering 22 properties, and reports by C. W. Cook.

8 Plats showing location of Limestone Quarries and ownerships, and comments by C. W. Cook.

5. 5 Files of Correspondence with various Companies and with my Assistants.

6. Complete Reports on Coal Lands and a report showing digest of information on Cement and Miscellaneous Properties, by H. M. Chance.

Dr. Leith's report on Iron Ore and Mr. Hague's report on the Copper ores were both made in collaboration with myself, and the results are embodied in my own report.

Yours very truly,

J. R. FINLAY.

APPRAISAL OF THE MINES OF MICHIGAN.

INTRODUCTION.

This work was undertaken under extraordinary conditions: I was notified on May 24th, 1911, that I had been selected by your Board, with the approval of the Governor and the Board of State Auditors, to appraise all the Mines of Michigan, including the Copper, Iron, Coal, Salt, Gypsum, and Miscellaneous, and hand in a report on their valuation before August 21st.

In some preliminary discussions I had become aware that it was considered necessary to have the work done under the general charge of an outside Mining Engineer, but it was not until I had arrived in Michigan that I became aware that Assistant Engineers, who were to look up the details in regard to mining properties, should also be outside men. It was not for some days that I fully realized that both the state of public opinion on matters of taxation and certain local feelings of rivalry and antagonism made it highly desirable that the whole work should be done by independent men from outside of Michigan. It goes without saying that this requirement added something to the difficulty of procuring precise information with the celerity that the shortness of the time seemed to demand.

It also made it plain from the very beginning that no examination of Mines in the ordinary sense could be attempted. Such an examination usually means a verification of the quality and quantity of ore remaining in the mines. To do this was plainly a physical impossibility.

The work therefore resolved itself into an examination of the essential records of the various mines. This not only seemed possible in the beginning, but proved to be possible, and I am able to submit a report on nearly all the mines, with full confidence that it is correct, barring minor inaccuracies due to hurry.

This would not have been possible except for the thorough-going cooperation of the mining companies themselves. Practically all of the concerns in Michigan which admitted themselves to be mining companies, showed a willingness to take great pains to furnish information fully and exactly, and to facilitate examination of maps and underground workings.

I was fortunate in being able to secure the services of the following gentlemen for various departments of the work:

Prof. C. K. Leith, of the University of Wisconsin, and formerly of the United States Geological Survey, for the Iron Mines. Dr. Leith has had broad experience with iron ores and their geology, not only in the entire Lake Superior region, but in various other parts of the world, and is a recognized authority on the subject.

Mr. William Hague, of New York, for the Copper Mines. Mr. H... is Managing Director of the North Star Mining Company of Californ... is a thoroughly well trained Mining Engineer, and has had consid... able experience in copper mining in the southwest. He was also equipp... with a general acquaintance with the Lake Superior Copper Mines.

Dr. H. M. Chance, of Philadelphia, was employed to examine the Co... Mines, and also to study the question of what other mineral using co... cerns of the Lower Peninsula might properly be called mines. D... Chance was organizer of the Mining and Metallurgical Society o... America, was formerly a Member of the Geological Survey of Penn... vania, and has had a wide and thorough experience in Coal mining a... allied industries.

Mr. Horace F. Lunt and Prof. C. W. Cook, of Ann Arbor, were em... ployed to secure information about Coal, Gypsum, Salt, Cement, an... Limestone properties in the Lower Peninsula.

Mr. Lunt is a Mining Engineer of Colorado Springs, Colorado, an... Prof. Cook has made a specialty of the study of the salt industry o... Michigan.

Mr. Heath Steele, formerly of Goldfield, Nevada, had charge of the... correspondence and statistical work of the Houghton office.

Other employes in the capacity of Stenographers, Office-men and Assis... ants were Messrs. Schantz, Carson, Nellist, Paine, Pearsall, Grant an... Culvertson.

All of these gentlemen exerted themselves to the utmost to secure the... results required within the time limit and within the appropriation, and... to them and to the Mining Companies themselves is due the principal... part of the credit for making the work as satisfactory as it is.

It was plain from the outset that at least eighty-five per cent (85%)... (and it was later proved to be more than ninety-five per cent (95%)... of the industries that could properly be called mining, belonged in the... Upper Peninsula, and on this account the principal office was estab... lished in Houghton.

From this office circulars were sent out to all the Mining Companies... requiring certain information. One of these circulars is reproduced in... the discussion of the Copper Mines, and it will serve as a model for the... others. The information asked for from all kinds of properties was... substantially the same.

At an early stage of the work it became plain that most of the com... panies producing Salt, Gypsum, Cement, Limestone, Brick-clay, etc.,... did not consider themselves to be mining companies at all, and answered... the circulars with reluctance. So many of them brought forward this... contention that considerable attention was given to the subject, with... the final result that all of my assistants in the Lower Peninsula, as well... as myself, became convinced that they were right, and that these con... cerns were not, strictly speaking, mining companies, but merely manu... facturers that use minerals incidentally. This matter is discussed fully... by Dr. Chance in a report which is appended.

All of the gentlemen employed by me as assistants made voluminous... reports, which I quote liberally throughout my report. None of them,... however, can suitably be reproduced in full. Dr. Leith's report is largely... a review of facts concerning the Iron Mines, hastily compiled and sub... mitted without editing. His determinations of tonnages were necessarily...

based on certain conventional assumptions. For instance, the only additions he made to the tonnage reported in sight by Iron Mines was equal to one working level for such mines as showed no marked evidence of weakening. Dr. Leith does not regard such additions to be sufficient for the purpose of gauging the full future value of the properties, and merely used it for the purpose of showing an amount of ore that would not meet dispute anywhere. The substantial additions to tonnage I have made myself.

I quote Dr. Chance's report on the Coal fields in full, so far as it relates to general conditions.

RESULTS IN SUMMARY.

VALUATION BY COUNTIES.

Copper.

County.	
Keweenaw	$12,200,000
Houghton	57,315,000
Ontonagon	300,000
Total Copper	$69,815,000

Iron.

Gogebic District	No. 1	$41,560,000	$41,560,000
Iron "	No. 2	17,042,000	23,339,000
"	No. 3	6,297,000	
Dickinson District	No. 4	11,391,000	11,508,000
"	No. 9	117,000	
Baraga District	No. 5	335,000	335,000
Marquette District	No. 6	12,132,000	
"	No. 7	27,825,000	
"	No. 8	2,530,000	
"	No. 9	256,000	
			42,743,000
Total iron			$119,485,000

Coal.

Bay	$484,709
Saginaw	350,924
Midland	12,862
Tuscola	3,500
Shiawassee	9,750
Total coal	$861,745
Grand total	$190,161,745

These valuations are based substantially on past and present earnings. During the past five years profitable copper mines earned $50,937,690.27 over expenditures, but I consider these earnings abnormal, being mainly due to the great boom of 1906 and 1907. In 1906 these mines earned $21,093,000, but in 1910 only $7,075,000.

The iron mines earned in five years $57,551,202.06 without the benefit of any abnormal prices. In 1910, the earnings were higher than for the average.

The total valuation of the iron mines is $119,485,000 based on an expected annual tonnage for all the districts of 10,922,000 tons and a total estimate of ore reserve of 195,041,809 tons.

I feel justified in believing that while these tonnages are all that can be apportioned among the various properties with any degree of certainty, that the various districts can be counted on to produce ore somewhat as follows:

Marquette Range	150,000,000 tons
Menominee Range	150,000,000 tons
Gogebic Range	60,000,000 tons
Total	360,000,000 tons.

The reasons for these expectations are given to some extent in the comments on the various districts.

This is probably the first time any considerable valuation of Michigan iron mines has been made public. It will probably excite interest and the question will be asked: How nearly correct is it? My answer is that any man who concedes that it is logical to found expectations of the future on the results of the past will be forced to admit that these valuations are correct within a very moderate range of error. It is to be remembered that the factors of cost and price are established by official and authentic documents, and that the life of the mines is also mainly established by the same kind of documents. The whole range of error lies in the mere extension of life that I have adopted as reasonable beyond what is plainly measurable. Now since the question is one of present values, it is demonstrable that my error in these extensions must be simply enormous before the error in valuation becomes considerable. The life of the mines is admitted to average sixteen years. If I extend this life to twenty years, the increase of life is 25%, but the increase of present value is only 15%.

THEORY OF APPRAISAL.

This report is a calculation of the value of mines to the permanent owner for the production of minerals. It is based on three factors: 1st average cost, 2nd average prices and 3rd an estimate of future life. The first two factors are determined by experience. The third factor, the life of the mine, is based partly on developed ore and partly upon an assumption of continuance of known ore bodies beyond the present bottom levels of the mines. The assumption of continuance is based mainly upon the extent to which the continuity of the deposits has been proven for the district and for the type to which the mine belongs. It will be seen that these factors are quite as definite as those upon which calculations in the world of business are generally founded.

The future value of a series of dividends is reduced to a present value by the annuity method; that is, a sum is calculated upon which the series of dividends will pay five per cent interest and also provide each year a sinking fund instalment which, invested each year at 4% interest, and added to prior instalments similarly invested and reinvested, will equal the sum taken. This sum is the amount which an investor can afford to pay for the property.

TABLE OF PRESENT VALUES FOR A SERIES OF DIVIDENDS.

The following is a simplified table showing the present value on the above basis of a series of dividends for different periods.

A single dividend of $1.00 payable at the end of a year is worth.		$0 95
A dividend of $1.00 continuing	two years	1 85
" " " " "	three years	2 70
" " " " "	four years	3 50
" " " " "	five years	4 26
" " " " "	ten years	7 50
" " " " "	fifteen years	10 00
" " " " "	twenty years	11 96
" " " " "	twenty-five years	13 51
" " " " "	thirty years	14 74
" " " " "	thirty-five years	15 73

UNPROFITABLE MINES HAVE NO VALUE.

The reasoning from these factors is pursued to its consequences. No definite value can be placed on any property for which any of the factors cannot be determined. Whenever the working of a mine proves that expenditures will equal or exceed receipts from products at average prices, the property has no value at all and it is appraised at zero.

STOCK MARKET VALUATIONS NOT CONSIDERED.

It will be observed that this method makes no mention of quoted values. It may be asked, and is asked, why it is that if the products of

mines are valued by the process of purchase and sale, the mines themselves should not be so valued? If the price of wheat, copper and iron is fixed by the sales on an exchange, why not mining stocks? My answer is that wheat is good to eat. Like copper and iron it is a staple and necessary article, tangible and definite. The value of these commodities is universally recognized, whether they are quoted on exchange or not, and prices fluctuate only with the varying pressure of demand. Mining stocks do not represent anything definite. Some pay dividends, in which case their quotations are comparable with those of other securities, but in the majority of cases mining stocks represent nothing more tangible than hopes. They fluctuate wildly as these hopes rise and subside. The very fluctuations make these stocks useful for gambling. People buy them not as serious investments, but as temporary speculations; often knowingly paying far more than they are worth, on the chance of selling them to somebody else for still more. In many cases this sort of thing has been organized into a business which depends not on any intrinsic value in the properties but wholly upon gambling. For this purpose the stocks are prized not because they are stable but because they are unstable. A notable instance of this is that of the famous Comstock mines of Nevada, which have scarcely paid a dividend in thirty years. On the contrary the assessments have reached astounding figures, probably over a score of millions. The assessments paid by stockholders merely take the place of prizes paid by lotteries, serving no purpose except to perpetuate the gamble. The public, of course, is fed with tales of the marvelous possibilities of these great mines and their past record is pointed to often enough. Still it is doubtful if much of these stocks is sold to a gullible public. They are mainly bought and sold by seasoned gamblers with whom it is a case of "dog eat dog." While this is an extreme case, it is wholly true that gambling forms an element to be reckoned with in every district where trading in mining stocks has become established. The copper district of Michigan is no exception. There are in it cases of terrific fluctuations in stock values. The Arcadian mine was valued at one time at $12,000,000; a few years later at $60,000, by stock quotations.

These reasons make it evident that the use of stock quotations in a serious appraisal of mining properties is illogical and beneath the dignity of a sovereign state. But, if the method is illogical it is certainly impracticable because in Michigan the ownership of mines by stock companies, whose shares are traded in, is confined to a single district—the copper mines.

The much more important iron mines are owned mainly by outside corporations or partnerships simply as so much private property. No available quotations apply to them even remotely. It is obviously necessary to use a method that will apply fairly to all properties throughout the state.

VALUATION OF MINERAL LANDS ON WHICH WORKABLE DEPOSITS ARE NOT DEVELOPED.

It is plain that where no deposits have been worked and not even proved to exist, the definite factors which can be applied to the valuation of an active mine are lacking. In this case no definite appraisal can be

made. A figure only represents a guess. I can see no way to come to any conclusion about such lands, other than to attempt such an analysis of the facts as may limit the range between which guesses will be reasonable. In this connection it seems desirable to discuss one or two points of difference between mining and other forms of business.

The mining business may properly be distinguished on the ground that a nessential preliminary is the discovery of a deposit in the crust of the earth, that is inherently valuable. A sufficient quantity of rich gold ore in the remotest desert is valuable as soon as it is discovered. The *discovery* is valuable. The commercial problem of utilizing the ore can so certainly be solved that no one is much concerned about it. Such a deposit can only be valuable because it is limited in extent, consequently its size and the time it will last are points of great concern and a most essential factor in the value that can be put upon it. With minerals less valuable and more common—less valuable *because* they are more common—the commercial circumstances of a discovery play relatively a more important part. A copper mine in the interior of Alaska is not valuable unless it is large enough and rich enough to pay for a railroad to reach it. An iron mine in the middle of the Sahara would have no value at all even if a railroad ran across it. In other words an iron discovery to be valuable must be within the range of certain commercial conditions. The value of coal is still more a question of mere environment. It is so abundant and can be mined at so many places that the question of an assured market is far more vital to commercial success than the discovery of a seam of coal. When we come to still more common minerals, such as limestone, salt, gypsum and brick-clay we find that they are so enormously abundant that the discovery of them excites no comment whatever. It is doubtful whether the discovery of salt, for instance, is of any value. The ocean is full of salt. Deposits are known in Michigan which would apparently supply the whole world for thousands of years. The ultilization of such minerals, therefore, is wholly a commercial question, and I am disposed to draw a line between mines and other industries on the simple ground of whether the mineral rights on which they are based have value or not.

Many industries, which no one thinks of calling mines, use minerals and even mining processes. The Pennsylvania Railroad has for years been conducting the mining operations of shaft sinking and tunneling for the purpose of developing its terminals in New York City, but nobody calls the railroad a mine or New York a mining camp. Similarly we do not find a sufficient reason for calling the brick maker and the cement manufacturer miners because the first digs clay and the second dredges marl. If, however, brick clay were a limited product valuable enough to make the mere hope of its discovery on a tract of land a sufficient reason for placing a higher value on that land than it would otherwise have, then we might properly call brick making mining. Some distinction of this sort appears absolutely necessary in order to differentiate intelligently between mining and a vast group of manufacturing industries that use minerals.

There are in Michigan large tracts of land highly prized for their possibilities of containing valuable mineral deposits. These lands are mostly in the iron and copper regions of the Upper Peninsula. It has

been a large feature of the work connected with this appraisal to tabulate the ownership and distribution of such lands, and attention has been given to the problem of working out a scheme of valuing them on a rational basis. The results will be taken up later in connection with the specific reports on the iron and copper fields. It is only worth while to point out here that the iron and copper ores of the Upper Peninsula have proved so valuable that their mere discovery carries a high commercial value. The mere chance of making such a discovery on a given tract of land is distinctly an asset. This is particularly true in the iron regions where the ores occur in masses of rock which are so unique that they can be instantly recognized, and in which the probability of discovery of merchantable ore is considerable. The finding of the "iron formation," therefore, can be considered a partial discovery of ore and it is undeniable that lands containing it have in the aggregate a large commercial value; a value that is not speculative but actual. But since we are now speaking of lands on which no merchantable discoveries have been made, we must admit that a valuation which may be reasonable for the aggregate of such lands may be wholly mistaken when applied to any particular tract.

MINING PLANTS NOT APPRAISED.

The value of a mine depends wholly upon the ore, that is, the equipment of a mine has no value except as applied to the ore. It is, therefore, useless to appraise mining plants as if they were in themselves an asset. It is true that a mine cannot be worked without equipment. A mine fully equipped is more valuable than a mere ore body without equipment, but this fact is fully taken into consideration in all appraisals. The point to be especially borne in mind is that mining equipment in itself is of no value; when the ore plays out the equipment is mere junk, no matter how costly it may have been in the first place; and this junk is so likely to be unsaleable that it is fully as likely to entail expense for watchmen and insurance as it is to yield any salvage. This fact may be surprising to many people but a little consideration will show that it is true. The equipment of a mine consists very largely of structures that cannot by any possibility be moved. The shafts and all other excavations are a part of the equipment. The buildings and machinery may occasionally yield some salvage but necessarily a small amount. It must be borne in mind that a large part of the expense of any installation of machinery consists of labor and materials for foundations, housing and erection. This is wholly lost when it is proposed to move the machine. Furthermore, the value of a machine depreciates rapidly on account of mere age.

MEANING OF APPRAISED VALUES.

The valuations in this report are intended to cover the value of the mining business of a company in each case. It includes all value that can be put on mineral lands and mining, milling and smelting equipment and mining supplies. It does not include property that can be valued for purposes other than mining, such as surface rights of any kind, agricultural or timbered lands, houses, stores, merchandise or cash.

EXAMINATION OF THE COPPER DISTRICT.

As soon as an office for conducting correspondence could be established at Houghton about June first, the work of securing information about the copper mines was actively commenced and an attempt was made, which proved entirely successful, to secure authoritative data on First—The Cost of Mining, and Second, the Prospects for Future Ore as Disclosed by the Maps of the Various Mines. Much information on the first subject could be gained by an examination of the published official reports of the various companies, the results of which were tabulated. To reinforce this information the following circular was sent to each of the copper companies, and similar ones to the iron, coal and miscellaneous mining companies.

BOARD OF STATE TAX COMMISSIONERS.
OFFICE OF APPRAISER OF MINES,
HOUGHTON, MICHIGAN.

CLASS—COPPER MINES.

Name of Company and officers.

Please answer the following questions in order and in case the company operates several separate mines, make answer separately for each of them, specifying the name of the mine.

1. How many men employed, include all classes up to General Manager.
2. What is the sum total of wages and salaries paid for each of the past five fiscal years.
3. Tons rock stamped for each of past five fiscal years.
4. Pounds of refined copper produced in each of past five fiscal years.
5. Price received in total dollars and per pound copper for all copper sold in each of the past five fiscal years.
6. Cost of production in dollars and per pound of refined copper for each of the past five fiscal years specifying the following items:
   a—Mining transportation and stamping.
   b—Exploration (diamond drilling, test pitting, etc., looking for new ore).
   c—Development (shaft sinking and opening work not charged directly to mining).
   d—Smelting, refining, freight and commissions.
   e—Construction (include all amounts spent on mining, milling or transportation equipment for the use of mines, but nothing for purchase of lands, real estate, etc.).
   f—General expense, (taxes, insurance, interest, administration and miscellaneous items not included in above).
   Total.
7. Describe, specifying township, range, section and sub-division of section, of each tract owned or operated by the company on which mining operations are now being conducted.
8. State how many tons of copper bearing rock and how many pounds of refined copper may reasonably be expected in future from each of these tracts.

9. Describe as above any tracts owned by the company known to contain payable copper rock, but which are not now being mined.
10. State how many tons of copper bearing rock and how many pounds of refined copper may reasonably be expected in future from these tracts.
11. Describe lands owned by the company which are situated upon recognized copper bearing formations, but which are not known to contain payable ore.
12. State ownership of company in other corporations connected with the copper business, such as smelting and transportation companies.
13. State ownership in acres, but without detailed description of non-mineral lands and other property not inherently a part of the mining business of the company.

Signature of President, Secretary or General Manager.

.....

Mr. Hague examined the maps of all of the principal companies with great care. I examined them myself with less attention to details but sufficiently to verify the principal facts. Together we went underground in some of the mines for the purpose of checking at some points the accuracy of information supplied by the companies' documents. The circulars were replied to in a satisfactory manner, and I hand them to your Board, with comments in each instance.

The total result of our inquiries was satisfactory; for the information secured was quite sufficient to disclose the essential facts required for a valuation of the properties. I shall attempt nothing further here than to make a review of the conclusions arrived at.

PRICE OF COPPER.

For the purpose of appraising the copper mines, I have decided to apply to the future a price of 14 cents per pound. This is considerably above the price ruling during the summer of 1911.

The Calumet and Hecla Mining Company state that the actual sum received for all copper produced by that concern from 1878 to 1910 inclusive has approximately been 13½ cents per pound.

For the twenty year period from 1890 to 1909 inclusive the average price of a given amount of copper sold each year by the Quincy Mining Company was approximately 13.7 cents per pound. As there seems to be some evidence that the Quincy secures a slightly higher price than the other lake companies, this would give ground for taking 13½ cents as a fair figure.

The price fluctuates considerably, as will be seen from the accompanying table taken from Horace J. Stevens Copper Handbook, Edition of 1909. This table shows the product in pounds of the Lake Superior mines for the years 1890 to 1909 inclusive, the dividends paid by the various companies for the same years and the price reported by the Quincy Mining Company for these years.

Year.	Dividends.	Price Cents.	Product in pounds.
1860	$3,415,000	15.7	101,410,000
1861	3,540,000	12.8	114,223,000
1862	3,260,000	11.2	123,198,000
1863	3,520,000	10.4	112,605,000
1864	2,380,000	9.5	114,309,000
1865	3,280,000	10.1	129,331,000
1866	3,985,000	10.9	142,037,000
1867	5,431,000	11.1	142,703,000
1868	6,857,250	12.0	147,068,000
1869	12,318,450	17.0	146,950,000
1870	9,811,000	16.6	142,182,000
1871	7,496,000	16.1	155,717,000
1872	3,440,000	11.9	170,326,000
1873	4,980,000	13.2	192,299,000
1874	5,432,000	13.3	206,356,000
1875	9,224,000	15.8	230,435,000
1876	13,811,000	19.15	229,633,000
1877	13,469,000	18.04	216,117,000
1878	4,837,000	13.35	222,675,000
1879	6,309,000	13.2	220,000,000
Total	$128,796,200	274.34	3,262,464,000
Average	6,439,800	13.7	163,123,200

My own belief is that the average price of copper is tending to rise. This opinion is based upon some considerations much more complicated than the above. It appears that for the last fifty years the price has fluctuated widely. Periods of high prices have occurred at an average interval of about eight years, separated by intervening periods of lower prices. The average price of lake copper in 1864 was 47 cents; in 1870 it had fallen to 21.19 cents in 1872 it had risen to 35.56 cents; in 1878 it fell again to 16.56 cents; in 1880 it rose to 21.44 cents; in 1885 it fell again to 10.84 cents; in 1888 it rose to 16.78 cents; in 1894 it was 9.52 cents; in 1899 it was 17.76 cents; in 1902 it was 12.16 cents; in 1907 it was 20 cents; in 1910 it was 13 cents. From these fluctuations it is possible to argue that the price on the whole was falling from 1864 to 1894, but since that time it has tended to rise. Following the high price of 1899, the average fell in 1902 to 12.16 cents, but in 1910, following the much more severe panic and depression of 1907, the average price has gotten down only to 13 cents. It remains to be seen what the average for 1911 will be. One might assume from these figures that the price has risen at least 3 cents per pound since 1894 because, following the panic of 1907, the price has not fallen to within three cents a pound as low as it fell in the depression following the panic of 1893. It is

also probable that another wave of high prices will culminate about 1915.

Furthermore, for the period of fifteen years, 1896 to 1910 inclusive, the average quotational price was 14.3 cents.

For ten years ending 1905 the average was....	13.79	cents.
For ten years ending 1906 the average was....	14.515	cents.
For ten years ending 1907 the average was....	15.309	cents.
For ten years ending 1908 the average was....	15.444	cents.
For ten years ending 1909 the average was....	15.066	cents.
For ten years ending 1910 the average was....	14.772	cents.

The trend of these figures is such that the stockholder in a long-lived copper mine has reason to hope that the average price for the future, taking a period of ten or twenty years, will be, perhaps, 15 cents per pound. My conclusion in 1909, after making a rather exhaustive study of the copper mining business, was that the average price for the ten years following would be 15½ cents per pound.

These figures and deductions seem to bear out the conclusion that a price of 14 cents is conservative for any mine that will last ten years. I have tried to avoid adopting a figure so high that it might be attacked as a mere personal opinion. Some copper companies believe that 13½ cents is a fair average and will perhaps be disposed to argue that 14 cents is unreasonably high. On the other hand I am convinced that even 14 cents is low and I am adopting it only from a desire to be conservative. The average for the five years reported for this appraisal was 15.3 cents. But this high average is explained by the effect of the abnormal prices of 1906 and 1907.

Much stress has been laid on the over-production of copper due to bringing in of numerous new mines during the past few years. The situation, however, is far from terrifying, as consumption is increasing at the rate of one hundred million pounds a year.

It appears that at the beginning of 1911, the expected increase of production from new mines would amount to some three hundred million pounds a year. This is only sufficient to meet the increase of demand for three years. After that period is passed the prospects for a scarcity of copper are fully as good as that new sources of supply will be added. The discovery of new deposits has practically ceased on the North American Continent. Even the so-called porphyry deposits which have been opened in the States of Utah, Nevada, Arizona and New Mexico within the past ten years are not strictly new. Their rapid exploitation has been rather the result of finding how to treat them successfully. Since that was accomplished an urgent search has been made for further deposits of this type (which is not essentially different from that of the Lake Superior Copper Mines) but with no success.

Claims have been widely published by the promoters of these porphyry mines that they could produce copper cheaper than old mines in other districts. This claim will not stand analysis. So far as costs are concerned, the porphyry mines are in essentially the same situation as other mines. Some can produce copper cheaply and others can not. It is highly doubtful if their average cost will be even as low as that in the Lake Superior District.

I recite these facts not to cast any doubt on the value of the new mines in the west, for they undoubtedly contain the greatest reserves of available copper known in the world today. But it is very easy to overestimate their effect on the commerce of the world. These new mines are not by any means so likely to disturb the copper business as the discovery of the Mesabi Range in the early 90s was likely to disturb the iron business of Lake Superior. For a few years after the opening of that remarkable district the supply of iron ore seemed so great that people had no confidence in its value and iron mines in Michigan were a drug on the market. The disturbance, however, proved to be of short duration and since 1898 the expansion in demand for iron ores has not only absorbed the enormous production of the Mesabi Range but has actually allowed the older mines to increase their annual production 50 per cent.

THE PAYING COPPER MINES.

Only nine copper companies in Michigan have made money during the past five years. Their actual earnings were $50,937,690 with copper averaging 15.3 cents per pound. Had the metal averaged 14 cents the earnings would have been $41,200,000. This would be $8,240,000 a year. The following tables give details of the cost, production and profits of these mines for the past five years and an estimate of their probable future production and present value.

Five year Operating Results of all Michigan Copper Mines whose record indicates them to be Profitable in Future.—J. R. Finlay's Report August 19, 1911.

Company.	Expenditures.				Cost per lb. cu.	Average price per lb.	Profit.	Loss.
	Construction.	General.	Miscellaneous expense.	Total expense.				
Calumet & Hecla	$2,989,570 00	$2,227,379 00		$35,062,606 00	09.95	15.5	$24,650,479 00	
Mohawk	Incl. general	288,943 26		5,940,140 74	11.35	14.85	1,850,200 52	
Ahmeek	1,226,945 23	145,198 24	(c) $385,243 71	4,736,018 00	13.30	14.30	348,738 79	
Allouez	702,860 80	Incl. Const.		2,042,905 50	17.00	16.00		(b) $137,628 88
Wolverine	125,949 68	Incl. Const.	(c) 153,301 00	2,075,517 93	07.65	15.60	3,896,270 59	
Osceola Consolidated	562,220 46	Incl. Const.		10,226,103 47	10.53	15.2	4,852,280 14	
Quincy	747,659 00	Incl. smelting		(d)11,433,086 00	11.20	15.46	4,355,362 00	
Isle Royale	945,651 46	Incl. Const.		3,306,141 73	17.20	14.20		(c) 619,852 61
Superior	75,913 00	140,210 00		1,201,727 00	19.20			665,804 00
Baltic	543,002 01	305,948 46		7,470,161 82	8.5	14.8	5,093,564 76	
Tri-Mountain	151,906 71	217,535 91		4,458,417 36	12.8	15.6	1,042,062 09	
Champion	751,305 00	333,626 57	Interest 20,002 20	9,185,488 10	9.25	15.+	5,097,141 83	
Lake	161,719 99	58,341 00	Exp. and Dev. 252,719 00	472,236 00		16.2		468,486 00
Atlantic			Exploration. 372,458 24	372,458 24				372,458 24
Total	$9,985,002 61	$3,897,476 45	$1,110,844 15	$101,714,607 63	10.1	14.98	$51,186,279 72	$2,314,531 70

(a) Development not charged to mining.
(b) Not a loss if stamp mill item not included.
(c) To cover over estimate of value of copper previous year.
(d) Purchase of lands not included.
(e) Purchase of lands included. Cost of Copper per lb. about 10.7, units if not included.

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Five year Operating Results of all Michigan Copper Mines whose record indicates them to be profitable in Future.—J. R. Finlay's Report August 19, 1911.

Company.	Years.	Pounds of copper produced.	Tons rock stamped.	Yield per ton. lbs. oz.	Receipts.			Expenditures.	
					Sale of copper.	Other sources.	Total receipts.	Mining, transportation and stamping.	Smelting, etc.
Calumet & Hecla	5	410,614,129	13,168,376	31.2	$61,213,175 00	.....	$61,213,175 00	$36,859,772 00	$4,084,975 00
Mohawk	5	52,415,989	3,666,690	14.7	7,770,680 46	$13,711 78	7,790,401 24	5,654,197 46	Incl. mining.
Ahmeek	5	35,911,727	1,732,261	20.9	5,124,770 79	.....	5,124,770 79	2,909,523 01	411,954 71
Allouez	5	17,355,311	1,114,086	15.6	2,732,507 29	22,558 42	2,755,065 71	2,240,044 70	Incl. mining.
Wolverine	5	48,162,040	1,709,373	28.7	7,321,330 00	50,459 43	7,371,789 43	3,360,307 31	Incl. mining.
Osceola, Consolidated	5	98,617,231	6,731,898	17.2	14,663,437 44	416,946 17	15,080,383 61	9,655,882 90	Incl. mining.
Quincy	5	161,650,255	Not given	Approx. 16.	15,661,627 00	106,811 00	15,768,448 00	9,736,009 00	930,419 00
Isle Royale	5	21,902,821	1,508,740	14.5	3,117,343 61	109,445 51	3,226,789 12	2,909,890 35	Incl. mining.
Superior	5	6,275,737	287,126	21.8	566,922 00	(f)	566,922 00	467,032 00	99,677 00
Baltic	5	84,194,877	3,771,016	22.3	12,272,836 28	.....	12,272,836 28	5,772,573 57	894,388 48
Tri-Mountain	5	24,710,534	1,699,936	15	3,500,479 45	.....	3,500,479 45	3,057,338 21	421,146 23
Champion	5	92,469,383	5,651,133	24.3	13,383,639 93	.....	13,383,639 93	6,093,677 00	980,725 45
Lake	5	518,059	14,547	21.5	(g) 3,707 94	(f)	3,707 94	25,983 00	2,495 00
Atlantic	5	.....	.....	.....	.....	.....	.....	.....	.....
Total	.....	1,060,564,031	35,220,319	30.2	$140,906,420 00	$779,932 71	$160,686,353 61	$79,626,808 26	$8,404,286 00

(f) From report to Tax Commission and not from annual reports.
(g) Unexplained.

If we could assume that these mines would last forever the investor would probably be satisfied with 5% income and he would probably capitalize their average earnings of $8,240,000 into a present value for the group of $164,800,000. The fact is that these mines are not worth even half of this amount, because their future life is not by any means perpetual. On the contrary their future is much less promising than it is popularly supposed to be. These mines have shown unusual persistence in depth but the limit of profitable working is now in most cases in plain sight. It must not be forgotten that the tonnage maintained now is three times as great as the mines have averaged in their fifty years of life. It will be observed that the Tamarack mine is not in the list of profitable companies. This mine has become worthless because the Calumet conglomerate, by far the richest deposit in the whole district, has failed in depth. The Tamarack owns an irregular tract immediately below the Calumet and Hecla mine and including the whole downward extension of the great lode which has enabled that property to pay $115,000,000 in dividends. In the upper portion of its mine the Tamarack was able to earn handsome profits and it paid up to 1906 a total of $9,420,000 in dividends. Since then it has uniformly lost money because the rock no longer yields enough copper to meet expenses. The depth at which the lode became unprofitable was approximately 3,000 feet on the slope. If this richest of all the deposits has played out in this manner it may be taken as a sure inference that inferior lodes will play out at lesser depths.

In order to give a more comprehensive view of the whole situation, I shall describe briefly the principal deposits which are now being worked with success. There are only six lodes supporting profitable operations, namely, the Kearsarge, Osceola, Pewabic, Isle Royale and Baltic amygdaloids and the Calumet conglomerate.

KEARSARGE LODE.

Beginning at the north east end of the district we have first the Kearsarge Amygdaloid, on which are situated the Mohawk, Ahmeek, Osceola Consolidated, Allouez, Wolverine and Centennial mines. This is the longest lode in the district. It dips northwestward at an angle of about thirty-seven degrees. Its thickness is some twelve feet. Its length is five miles. While this vein is mineralized quite uniformly for the above length there are two areas or ore shoots that are distinctly richer than the average. These occur on the Wolverine and Ahmeek properties. These two enrichments appear to be substantially of the same size and character, but apparently the Wolverine ore body is the richer.

The Wolverine has been able to maintain a yield of about twenty-seven pounds of copper per ton, but there has been some decline. At first the rock yielded thirty pounds but it has now gone down to about twenty-five pounds per ton. The conditions for cheap mining are ideal and the Wolverine has been able to produce the cheapest copper of the district, its cost per pound being less than 8 cents. The Ahmeek mine is much younger and is just arriving at its most profitable stage. It has been securing about twenty-two pounds refined copper per ton and has brought its tonnage up to about 550,000 a year. I calculate that this mine will have to spend considerable money for further construction

and development in order to bring its output up to some eight hundred thousand tons per year. Including the probable expenditures for construction, I estimate that the mine can produce copper at slightly over nine cents a pound for the next ten years.

The other mines on this lode are not so good, although the South Kearsarge branch of the Osceola Consolidated seems to have a portion of the Wolverine ore shoot. We may calculate with certainty that part of the Kearsarge lode will prove profitable down to a depth of at least six thousand feet. It is not an unfair supposition that at least 60% of its area would be mined to that depth and will produce sixteen pounds per ton. Mr. Hague has estimated that at a depth of two thousand feet on the slope the lode is yielding an average of eighteen pounds a ton but that the yield may be expected to diminish with greater depth.

It is probable that the lode will be able to produce to a depth of six thousand feet some ninety million tons of ore, of which some twenty million tons have already been mined. This would leave seventy million tons to be taken out.

The tonnage apportioned among the various properties is as follows:

Wolverine	3,600,000 tons.
North and South Kearsarge	21,000,000 tons.
Centennial	Doubtful.
Mohawk	12,000,000 tons.
Allouez	10,000,000 tons.
Ahmeek	17,000,000 tons.
Total	63,600,000 tons.

The distribution of copper still to be produced is as follows:

Wolverine	80,000,000 pounds.
Osceola Consolidated	300,000,000 pounds.
Mohawk	176,000,000 pounds.
Allouez	140,000,000 pounds.
Ahmeek	290,000,000 pounds.
Total	986,000,000 pounds.

This is probably as near correct as a tonnage can be apportioned among the divided owners.

The valuation put on these various mines is as follows:

Beginning at the North End.	
Mohawk	$3,500,000
Ahmeek	7,200,000
Allouez	1,500,000
Wolverine	3,700,000
Osceola Consolidated	6,000,000
Total	$21,900,000

The method of arriving at this apportionment is as follows:

The Mohawk Mine has a surface area covering the Kearsarge lode of about 480 acres, this being the upper portion from the outcrop down to the Ahmeek line, which will be reached at an average depth of 2,500 feet along the slope. About 70% of the territory so far explored appears to be mineable and yields about 55,000 tons of ore or approximately eight hundred thousand pounds of copper per acre. On this basis approximately 330 acres containing two hundred and sixty four million pounds of available copper was the full measure of production possible in this territory before mining began. About eighty-eight million pounds has been already removed, leaving for the future a product of about one hundred and seventy-six million pounds. This can be mined in approximately fifteen years at a cost of eleven cents a pound and a profit of three cents a pound, giving a total profit of $5,280,000 and a present value of $3,500,000.

Going now for convenience to the Wolverine Mine we find that it has a surface area covering the lode of about 215 acres. The total production to date has been approximately one hundred and seven million pounds and the future production will be eighty million pounds. This can be mined in nine years at eight cents a pound, leaving a profit of six cents a pound and a total profit of $4,800,000, and a present value of $3,700,000.

The fairest method of measuring the probabilities of the Ahmeek Mine is to compare it with the Wolverine and Mohawk combined. The reason for this is that the Ahmeek contains, as mentioned above, a rich portion of the vein comparable to that of the Wolverine, but not so rich. It contains only twenty-two pounds of copper per ton against twenty-seven pounds for the Wolverine. A large part of its territory is simply a downward extension of the lode from the Mohawk property.

The total area of the Ahmeek property covering the Kearsarge lode above a depth of six thousand feet on the slope is 660 acres against a combined acreage of 695 acres for the Mohawk and Wolverine. I do not believe that the Ahmeek property is likely to produce more than 75% as much copper as the two properties combined. The rich tract is approximately 80% as rich as the Wolverine. The portion underlying the Mohawk has the pronounced disadvantage of containing only the deep levels. I, therefore, base my valuation of the Ahmeek Mine on the assumption that it will produce three quarters as much copper as the Mohawk and Wolverine combined. This will give us about three hundred and thirty-five million pounds of which forty-five million pounds have been mined, leaving two hundred and ninety million pounds to be extracted. It is a fair assumption that of this, one hundred and fifty million pounds will be produced during the next ten years at an average cost of a trifle over nine cents a pound, making a total expected profit in that period of about seven and one-half million dollars and a present value for that period of about five and one-half million dollars. The remainder, one hundred and forty million pounds, will probably be low grade, costing eleven cents a pound and making a profit of $4,200,000 for a period of twelve years following the first ten. The present value of such an expectation is about $1,700,000, so that the maximum valuation of the Ahmeek is $7,200,000.

The Osceola Consolidated owns the North and South Kearsarge mines.

The South Kearsarge is rich like the Wolverine, but it is largely worked out. The North Kearsarge is poor like the Mohawk. Without going into details, the total expectation is about twenty-one million tons containing about three hundred million pounds of copper. This can be mined in fifteen years at a profit of three cents a pound, totaling nine million dollars. This would give it a present valuation of approximately six million dollars.

The only remaining mine on the Kearsarge lode that can be classed as profitable, the Allouez, may be counted on for about ten million tons and one hundred and forty million pounds of copper. The operating record to date of this mine is not very flattering, costs for the past five years being fifteen cents; but in 1910 it got down to 11.6 cents. This mine has only two shafts, which gives it a maximum producing capacity of four hundred thousand tons a year. At this rate it will take twenty-five years to exhaust the property, and it is not safe to count on the cost of copper at less than twelve cents a pound. We have then a total of $2,800,000 profit to be expected in twenty-five years. This gives the mine a present value of only $1,500,000.

OSCEOLA AMYGDALOID LODE.

Only one mine is working on this lode at present, viz.: the Calumet & Hecla. On this property it has been developed for a length of 9,900 feet, but a considerable portion at the North End is not apparetly profitable. Since December, 1900, this lode has produced 3,301,766 tons. The abandoned extension on the Old Osceola mine toward the south is supposed to have produced about four million tons. The yield of copper on Calumet & Hecla ground alone has been about fifty-five million pounds. This vein is not as uniform as the Kearsarge. Mr. Hague summarizes the situation as follows:

"From the fact that the Osceola lode in the Tamarack workings shows a yield of about 13 pounds per ton at depth of 6,100 ft. on the dip of the lode, and from the fact that the Osceola branch of the Osceola Con. has been closed, the lowest workings being 4,700 on the dip of the vein,—an arbitrary limit of 5,000 ft. has been placed upon profitable mining on the Osceola lode—providing the price of copper remains the same, and provided that no material reduction in working costs takes place while operating at such depth."

On this basis and assuming that 60% of the lode will prove mineable it is estimated that it will yield some twenty-three million tons, which will produce 330,000,000 pounds of copper. This will be produced in twenty years at a cost of eleven cents a pound, giving the mine a present value of $5,900,000.

THE CALUMET LODE.

This is the single conglomerate vein worked in the district. It is by far the richest in the whole region and has paid nearly 70% of all the dividends of the Michigan copper mines. It has been worked by the Calumet & Hecla and Tamarack companies. The Tamarack as mentioned above has become unprofitable on account of great depth and the Calu-

met & Hecla has its possible future sharply defined. This fact is ... ous for the prosperity of the district as a whole for the failure of ... great deposit is not being compensated for by new discoveries.

The Tamarack Mine has no payable ore at all in sight and I appr... its value at zero.

The Calumet & Hecla has on its conglomerate lode about twenty-... million tons of ore reasonably assured at an average estimated cost ... of twenty-six pounds per ton, making a total of 702,000,000 pounds. ... tonnage is divided roughly between five million tons of shaft pillars, ... mated to contain fifty pounds per ton and twenty-two million tons ... other rock in the lower portions of the mine estimated to contain ... a shade over twenty pounds per ton. These figures contrast sharply wi... the former richness of this deposit, for ten years ago the average yi... of the Calumet & Hecla rock was sixty pounds per ton.

Great progress has been made in reducing costs. The mine was ... cellently equipped with magnificent machinery during the bonanza da... and this machinery has proved ample for the ultimate requirements ... the property. The development work required to extract the ore has be... largely completed. As a consequence, I believe the mine can be work... out at a great profit until it is exhausted. I estimate for the remaini... copper a cost of only nine cents a pound, which will leave a profit of ... cents. This will give the property a profit of thirty-five million doll... in twenty years on this lode, giving it a present value of twenty-one m... lion dollars. The company also claims, and I have no reason to doub... that it can produce one hundred and fifty million pounds of copper fr... some thirty million tons of conglomerate sands now piled in Tor... Lake. This can be produced at about nine cents a pound during ... next twenty years, the present value being not less than $4,500,000. T... total value to be credited to the conglomerate lode, therefore, at ... present time is about $25,500,000. For the whole property the valuat... is $31,400,000.

PEWABIC LODE.

This is an Amygdaloid at present worked only by the Quincy mine. ... is not a single vein but a series of amygdaloid flows carrying copper ... a thickness of about two hundred feet. The main lode which contai... most of the workings is near the center of this series but perhaps inclin... to be nearer the foot wall side. The production of the Quincy Mine ... to the end of 1910, was 458,000,000 pounds of copper. This is exclusi... of the production of the old Franklin Mine, whose property is now em... braced by the Quincy. I have not been able to verify the productio... of the Franklin, but it was apparently some one hundred and fifty mi... lion pounds. The total output of the lode to date may be estimated ... about six hundred million pounds.

The vital point in the present situation is that the property has ... exhausted to a great depth, approximately 5,200 feet along the slope. ... has long been recognized to be in a dangerous condition on account ... possible caving. A few years ago the Atlantic Mine suddenly closed ... and was permanently abandoned by the operating company. The yi... of copper per ton for the last five million tons mined has been less th... one-half the yield of the first five million tons. The mine is well equip... and undoubtedly secures the best results obtainable under the condit...

it is facing the three adverse factors of great depth, a declining yield the danger of caving. The total production possible from the lode a depth of seven thousand feet, which may be taken as the ultimate ofitable depth, will not exceed two hundred million pounds. A fair esent value is based on one hundred and fifty million pounds to be oduced in seven years at a cost of 11.3 cents a pound (which is the erage of the past five years) and a profit of 2.7 cents per pound. The tal profit expected in seven years is $4,050,000, giving it a present value $3,250,000.

The Hancock Consolidated Mining Company is projecting some exrations on the Pewabic lode but has not yet reached it. This property nothing but a prospect and I shall not consider it worth anything.

The Franklin Mine is also exploring for the Pewabic lode, but so far present appearances go the Quincy owns all the ground which is likely be profitable.

ISLE ROYALE LODE.

The above described deposits are all northeast of Portage Lake. The y two lodes being worked southwest of Portage Lake with any preisions to success are the Isle Royale and Baltic. The Isle Royale was covered in the early days and has been worked without success for y years. Its record for the past five years shows a cost of 16.7 cents ound for 21,902,000 pounds of copper. On this record it might be put wn as unprofitable, but there is another side to it. The output has en brought up from 192,000 tons in 1906 to 521,000 tons in 1910. The ld of copper per ton has remained substantially the same and shows average for five years of 14.6 per ton. The cost in 1910, was only 8 cents per pound, which seems warranted by the yield of the rock. is indicates that the mine has some value. It seems reasonable to exct that it will produce 112,000,000 pounds above the 4,000 feet level sixteen years at a cost of 12 cents a pound. This indicates a total ofit of $2,240,000 and present value of $1,450,000.

BALTIC LODE.

This is the last important vein discovered in the country. It was ned up about 1897 although some former unsuccessful work has been e upon it. Four mines are situated upon this lode, viz.: The Suior, Baltic, Tri-Mountain and Champion.

SUPERIOR.

Mr. Hague comments upon the Superior as follows:

"This property is in the prospective stage though a very promising e. One shaft has been put down about fifteen levels. 286,566 tons of e yielding 5,602,408 pounds of copper has been hoisted from drifting practically no stoping has been done. This is about 19½ pounds cop- per ton. Depth and lateral extent must be obtained before any finite statements can be made as to life or yield. About 1,400 feet terally on the vein has been opened to date. If the Baltic may be used a standard for this property the following figures may be used for the nnage developed: 1,900,000 tons at 19⅕ pounds equals 37,000,000 unds of copper."

One unfavorable feature about this property is that the outcrop payable ore is short. On the theory that the depth of an ore shoot some relation to its length, there is some reason to fear that the may not prove extensive. It is, therefore, hazardous to count upon indefinite extension downward. It seems fair that the probable value the property should be based on an expected output of seventy-five million pounds, this being twice the amount now opened up. Since property is not equipped, it is probable that 2 cents a pound, or a to of fifteen hundred thousand dollars should be allowed. Therefore, total expected cost may be put at twelve cents per pound, leaving average profit of 2 cents a pound, or fifteen hundred thousand dollars be obtained in fifteen years. This would give the property a pr value of about one million dollars.

COPPER RANGE CONSOLIDATED.

This company owns the Baltic, Tri-Mountain and Champion mi Each of these works upon a separate ore shoot which together cover length of more than three miles along the vein. Taking these three bodies in the aggregate the length is such that one would be disposed concede the probability of the ore extending to a great depth. Howev the ore shoots are separated by large stretches of entirely barren grou The ore shoot of the Tri-Mountain, which is the central one of the thr weakened abruptly at a depth of about seven hundred feet and the m has become practically unpayable. I quote the following notes ta after an inspection of the bottom levels of the Champion and Ba Mines:

"Champion Copper Company.—Present ore shoot is bottomed at shaft at about 11th level. At E shaft it goes down to 18th level a there plays out. No assurance of any further ore in depth."

"Baltic Mine.—Present ore shoot is bottomed on South end of m as far North as No. 3 shaft at 22nd level. No. 4 shaft still has ore bottom but gives signs of weakening. No assurance of any further in depth."

The management, however, is not disposed to take these unfavora developments seriously but fully expects to find better ore at gre depth in all three mines. Under these circumstances I do not feel posed to express an opinion as to the future of these properties, exc that the continuity is not so well demonstrated as in the case of m north of Portage Lake. There are undoubtedly large gaps of bar territory in the vein separating the richer ore bodies both laterally vertically.

It is to be remembered that these mines are well managed and h been very profitable, so that a considerable falling off in yield can withstood before the profits will be extinguished.

BALTIC MINE.

Mr. Hague estimates ore reserves at 3,400,000 tons reasonably a at twenty-two pounds per ton making seventy-five million pounds copp If we assume that this is reasonably certain to be extended to five m lion tons and one hundred and ten million pounds of copper, we get assured life of about seven years. The cost of production is less th

e cents a pound, profits five cents a pound. This gives an expected
fit in seven years of $7,500,000. It is perhaps reasonable to expect
t further discoveries will enable the company to make additional
fits, which will be sufficient to pay interest on a full valuation of this
perty after the seven years have expired. It seems, therefore, fair
give the mine a full valuation of $5,000,000.

TRI-MOUNTAIN MINE.

his mine has been able to maintain a cost per pound copper at about
cents for the past five years, but with a diminishing output both
tonnage and copper. The future of the mine is entirely prospective
pt for about sixteen million pounds of copper which may be obtained
the next four years at a profit of $192,000. The present value is
5,000.

CHAMPION MINE.

Mr. Hague's estimates of ore reasonably assured on this property is
million tons, which will produce one hundred and ten million pounds
copper. The same assumptions can be made for the Baltic as regards
t and the valuation can be placed at the same figure, viz.; $5,000,000.

LAKE MINE.

nother property situated some twenty miles southwest of the Copper
ge group is generally supposed to be valuable. This is the Lake
perty. It is not by any means assured that this mine will ever pay
vidend. 14,485 tons of rock were shipped from this mine and stamped
h a yield of 318,050 pounds of copper, this being an average of 21.95
nds per ton. If a large tonnage of ore of this grade could be secured
mined at average cost, this property would unquestionably be valu-
. But it is stated by the management that the ore shipped to the
was selected and cannot be taken as a fair average of the mine.
present all effort is being directed toward equiping and opening the
e on a sufficient scale to place mining on an economical basis. Ore
then be sent to one of the Copper Range mills. The cost of freight
be from fifteen to twenty cents per ton. It is not probable that
er these circumstances, operating costs will be less than $2.10 per
. This will make fifteen pounds per ton the smallest yield that can
bly meet expenses. It is hoped that this mine will prove to be some-
like the Baltic, in which case about two million tons may be con-
d to be opened up, which might yield about forty million pounds of
per. Conceding that this product may be obtained at a profit of one
t a pound during the next ten years, we get a present value of about
0,000 for this property.

VALUATIONS OF THE COPPER MINES:

Mohawk	$3,500,000
Ahmeek	7,200,000
Allouez	1,500,000
Wolverine	3,700,000
Osceola Consolidated	6,000,000
Calumet & Hecla	31,400,000
Quincy	3,250,000
Isle Royale	1,450,000
Superior	1,000,000
Baltic	5,000,000
Tri-Mountain	165,000
Champion	5,000,000
Lake	300,000
Atlantic	350,000
Total	$69,815,000

UNPROFITABLE COPPER MINES.

Several companies have mined copper at a loss even during the h prices of the last five years. This fact was ascertained early in the i vestigation, and unless the record showed some signs of progres improvement no particular attention was paid to these concerns.

Franklin Conglomerate. The Franklin Junior mine has been work a conglomerate lode between Hancock and Calumet. During the p five years it produced 15,258,000 pounds of copper at an average cost 16.7 cents per pound. The output declined from 4,571,000 pounds 1906 to 966,000 pounds in 1910. This record is such that the mine c be classed as absolutely unprofitable and I appraise it at zero.

Atlantic Mining Company makes the following report: "The Atla Mine caved in May 26, 1906, and the work done since has been entir of an exploratory nature except that the stamp mill has been doing s custom work, and this work shows no profits. It was done to keep t mill in condition to use if anything of value was found on ore le Explorations are now all stopped and the machinery is being d mantled.

This mine was formerly profitable but suddenly caved in as al described because the openings had become too extensive. This pr erty has recently been absorbed by the Copper Range Consolida The consideration was an issue of ten thousand shares of stock of t latter company equal to 2½% of its capital. As the Copper Range C solidated owns the Baltic and Tri-Mountain mines and half the Ch pion mine, together with the Copper Range Railroad, it is plain t the valuation to be put on the Atlantic is 2½% of the total valua of the Copper Range Consolidated. As this includes appraisement the railroad company, I cannot state exactly what the amount sh be, but based upon the valuation I have put upon the above mentio mines, it should apparently be about three hundred and fifty thous dollars. This valuation covers 962 acres of mineral land and a m which is stated to be as good at the bottom as it ever was, but no to be reopened from the surface.

The Winona Copper Company produced during 1906, 278,182 pounds copper at a cost of $1.05 per pound; in 1907, 219,332 pounds of copper a cost of 32 cents per pound; in 1908, 39,310 pounds of copper at a of more than five dollars a pound. It has been developed by two fts; No. 3—1,272 feet deep and No. 4—1,460 feet deep. The rock ed during the last year of production, 1907, produced 12.6 pounds copper per ton. This record shows the mine to be absolutely unftable.

The King Philip Copper Company has spent during the past five years 9,840; is developed by two shafts; 1—1,124 feet deep, and 2—1,324 deep. The latter showed ground like that opened in the Winona e. This mine evidently has no value, the only hope being a remote of finding better rock. The large amount of exploration done on Winona and King Philip would ordinarily be considered a sufficient onstration of the possibilities.

The Ash Bed Mining Company attempted a little mining in 1906 and , producing in 1907—1,600 pounds of copper at a total cost for the od under review of more than eight dollars a pound. In 1907 min operations were discontinued and have not since been renewed.

The Tamarack Mining Company, which formerly paid large dividends, become distinctly unprofitable during the period under review. It still producing considerable copper, having produced 58,314,000 ds during the last five years. Its average cost has been 15.2 cents pound. In 1906 the cost was 15.29 cents; in 1907, 16.98 cents; in 8, 15.53 cents; in 1909, 14.1 cents; in 1910, 14.53 cents.

Undoubtedly the management hopes to reduce the cost and make some fit, but I am not willing to appraise hopes when contradicted by the on such scale as this. I, therefore, value the mine at zero.

The La Salle Copper Company produced 791,000 tons copper during and 1910, at a total cost of 35¼ cents a pound. Thus property has rge acreage on the Kearsarge, Osceola and Calumet conglomerate . The southern end has no promise. Nos. 1 and 2 shafts are 2,000 feet and 1,400 feet respectively; about 17,000 feet of drifting been done and out of 181,075 tons hoisted, 64,598 tons were treated re, yielding 10.8 pounds of copper per ton. If this record demonted anything, it demonstrates that the property is hopelessly unftable and I appraise it at zero.

The Gratiot Copper Company produced in 1910, 29,869 tons of rock h were stamped, yielding 283,615 pounds, this being a recovery of pounds per ton. Operations were suspended April 1, 1911 apparently very good reason, and I appraise this property at zero.

The Centennial Copper Mining Company occupies 640 acres of land the south end of the Kearsarge lode. It adjoins the South Kearsarge Wolverine mines on the west and it would be strange if none of the worked by those companies cross the line. However, the record of company shows no promise. 10,980,000 pounds of copper has been uced during the last five years at a cost of 18.4 cents a pound, the l loss in five years being about two hundred and ninety thousand rs. While admitting that this mine may become profitable, this t depends entirely on the extent to which the Wolverine ore body cross over upon its ground. It is not by any means impossible that y never do this as some of the ore shoots take a course almost due

north, in which case the Wolverine ore body might continue in a d
tion parallel to the Centennial boundary. I, therefore, appraise
value of this mine at zero.

The Victoria Copper Mining Company has produced in the last
years 5,270,000 pounds of copper at a cost of nineteen cents per pou
the average yield is 10.9 pounds per ton. This record shows the m
to be hopelessly unprofitable.

The Mass Consolidated Mining Company has produced during
past five years 10,988,000 pounds of copper at an average cost of
cents per pound. This mine has been securing about the same re
for the last twelve years and has called assessments for the amount
$2,100,000. Its record shows it to be hopelessly unprofitable and I
praise it at zero.

The Michigan Copper Company has produced during the five ye
under review, 10,561,000 pounds of copper at an average cost of
cents per pound. Mining operations were suspended in 1910, b
continued for some twelve years. They cannot be considered as
thing more than an experiment on a grand scale, which proved
property to be hopelessly unprofitable. This company undertook to
open the old Minnesota mine, which was closed down some thirty
forty years ago after paying more than $1,700,000 in dividends.
mine, at that time, was given up as worked out. It was supposed
improvements in methods and facilities would make the veins pay
again. This belief has cost the stockholders of the Michigan more
two million dollars.

I give the above details of these various properties to show at a gl
the conclusive character of the evidence in regard to nearly all of th
To attempt to place a valuation upon properties which have no bet
record than most of those mentioned would be only a joke. In m
cases these operations are simply costly experiments more or less c
pleted, undertaken in the hope of developing a profitable mine. W
the experiments are carried along beyond the period when the dem
stration is thorough, the continuance is a psychological phenome

NON-PRODUCING COPPER COMPANIES.

You will find in the data submitted with this a long list of cop
mining companies which have not produced during the five years I ha
reviewed. Some of them have produced in the past but have clo
down permanently; others have produced nothing at all. I have sou
for some logical means for placing an acreage value on the undevelo
or demonstrated lands situated upon the copper bearing rocks but w
out success.

It may be taken for granted that the long list of unprofitable co
prises mentioned above were undertaken upon the best showings
copper that could be found outside of the tracts owned by the profit
mines.

It seems ridiculous to place a valuation upon lands which have
showing at all when costly operations upon lands that have considera
showings of copper have not proved those showings to have any va
but, on the contrary, in most cases have proved them *not* to have

alue. The fact is that the copper district has been pretty thoroughly explored. The only surely valuable deposits discovered in the last hirty years were those on the Baltic lode. The discovery of these mines ogether with a theory that the mining business could be put on an improved basis through the installation of larger plants designed to handle larger tonnage caused a boom in the district, which lasted pretty continuously from 1898 to 1907. The hopes entertained during this period spired the expenditures of vast sums of money for explorations, the esult of which has been meagre. It is probable that the people of the istrict have not fully recovered from the speculative mania which lasted o long. Many owners of mineral rights undoubtedly hope to dispose f them for fancy prices. This is largely because in the past promoters ave been able to float mining companies and sell their shares to the ublic. They have actually preferred in many cases to pay owners large ums in cash for their lands rather than to issue stock for them. This ind of a market has no reference whatever to the intrinsic value of the roperties.

I take the ground that the State of Michigan does not wish to recognize extrinsic valuations created by promoters whose business is not to roduce copper but to gauge the public appetite for speculation.

MINERAL RIGHTS OWNED BY HOLDING COMPANIES.

The St. Mary's Mineral Land Company owns all the stock of the St. Mary's Canal Company and half the stock of the Champion Copper Company. The St. Mary's Canal Company owns about 86,000 acres of land in fee simple and 14,000 acres of land the surface of which has been sold but the mineral rights reserved. Such companies are rarely popular. It is very easy to create in the minds of the people the suspicion that such companies are holding large tracts of land for high prices and thereby impeding proper development and, in a word, living on the "unearned increment." In the case of the St. Mary's Mineral Land Company this suspicion is hardly justified by the facts.

A careful inspection of the record of this concern shows that during the past four years it has earned nothing applicable to dividends except a portion of its dividends from the Champion Copper Company which, of course, is appraised separately. Its total receipts from sources other than the Champion Copper Company dividends are as follows:

Land sales	$227,398 50
For wood and timber	27,253 64
Notes	66,000 00
Ground rent	9,330 39
Interest and sundries	59,785 49
Total	$389,768 02

But its expenditures in the attempt to open up new mines have been very large.

Following are the assessments paid during these years on shares in copper companies:

King Philip Company	$672,714 00
Winona Company	6,736 00
Hancock Consolidated	160,000 00
Ojibway	4,000 00
Houghton Copper Company	55,555 00
Challenge Company	138,000 00
Office	50,792 66
Taxes	86,921 80
Franklin District	2,220 00
	$1,176,939 46

This statement proves that the company has lost $787,171.44, excluding The Champion dividends. This statement rather effectively disposes of the argument that this company is a "dead weight" on the community and is living on "unearned increment."

VALUE OF IRON ORE.

Unlike copper no specific figure can be given for the value of iron. The price of the ore varies according to its chemical and physical qualities. The expected future price of ore has been fixed for the purpose of this report on a calculated value for all grades based on the average quotations for standard ores for the past seven years. As a matter of fact the average for seven years differs very little from the average of the past five years.

These standard prices are fixed annually by the Lake Superior Iron Ore Association. The methods of figuring the price of ore from analysis is fully described in the hand book by Crowell & Murray, of Cleveland (The Penton Publishing Company, of Cleveland, publishers). It is also explained in Rukard Hurd's Iron Ore Manual of the Lake Superior district (F. M. Catlin, Sales Agent, St. Paul, Minnesota). On account of the rather complicated nature of these calculations they are not described in this summary, but the average price received and the average price expected for the ore of each mine may be found in the tables of figures. The question arises whether the average price for the past seven years is a fair one for the future. As in the case of copper, the prices ruling for the season of 1911 are lower than the calculated average used. The considerations that impel me to use this average are precisely the same as those used in the case of copper, there being the same reasons to expect a continuance of the demand in the one case as in the other. The growth of the iron mining industry in Lake Superior shows some startling figures. The demand has been doubling every ten years. The shipments in 1910 from the whole region were 43,350,715 tons; in 1900 they were only 20,593,570 tons; in 1890—9,003,801 tons and in 1880—1,908,754 tons. While the shipments of one year occasionally fall behind those of the preceding year, it seems to me that no one can expect this prolonged and rapid growth to come to a sudden stop. To be sure the resources of the region are sufficient to maintain an output of forty million tons a year for forty years taking only ore that is merchantable under present conditions so that at recurrent intervals the market may be glutted. But if the demand continues to increase in anything like the

proportion that has ruled during the last thirty years, these known reserves will be exhausted in a much shorter time. At least three quarters of all these reserves have been put in sight by the exploration of the Mesabi Range in Minnesota during the last twenty years. The discovery of new ore in that district has almost ceased, and it is to be expected that from now on the already known ore bodies will be in a progressively firmer commercial position. It is conservative to say the amount of new ore discovered in the Lake Superior region each year is not now more than keeping pace with the depletion of reserves. It is also probable that the progress of discovery is now proportionately more rapid in Michigan than in Minnesota.

Michigan has lost to Minnesota her former commanding position in the iron ore trade. In 1880 Michigan produced all of the iron ore shipped from Lake Superior; in 1890 it shipped more than 90%; in1900 approximately 50%; in 1910 less than 30%. In spite of this proportionate loss, the tonnage shipped by the Michigan mines has steadily increased and may be expected to increase.

POSSIBLE EFFECT OF FOREIGN COMPETITION.

For the first time in many years, some of the Lake Superior iron producers are expressing uneasiness as to the effect of competition of iron ores from Cuba and Brazil, especially in view of the probable abolition of the tariff on iron ore. In Cuba there has been developed a reserve of iron ore amounting to three thousand million tons, all lying close to tide water. The ore presents some disadvantages; being very high in moisture, so that while the dried ore runs something over 50% in metallic iron in its natural state, it contains less than 35%. This fact presents some Metallurgical difficulties which cost money to overcome. At present the ore is put through a process of "nodulizing" before shipment at a cost of *one dollar* a ton. The cost of mining and shipping to the coast is expected to be very small, the ore being really nothing but a ferruginous clay, forming a bed from ten to eighty feet thick on the surface of the ground, requiring no stripping or any preliminary work except to clear away the brush. It is said that this ore can be utilized without the "nodulizing" process, in which case it could probably be delivered at New York or Philadelphia at a cost of $1.25 a ton. At present, however, the nodulized ore must cost well over $2.25 a ton at the Atlantic ports.

Brazil also has a tremendous field of high-grade Bessemer iron ores, running 65 to 68% metallic iron. The field is, however, entirely undeveloped. It is situated three hundred miles inland from the ports of Rio Janeiro and Victoria and is reached by a railroad, but the railroad is such a poor one that it cannot be seriously used as a vehicle for bringing the ores to market. It appears that these ores might some time be delivered in Europe or the United States for a cost of about three dollars a ton. Lake Superior ores of the same grade would cost over three dollars a ton at Lake Erie ports and over seven dollars a ton on the seaboard.

I am satisfied, however, that competition from these fields can do nothing more than to curtail the rate of *expansion* of demand for the Lake Superior ores. It will not prevent shipments from continuing at

the present rate or even from greatly increasing. I base this opinion on a very simple fact, viz.: that the costs mentioned for Cuban and Brazilian ores are not given upon the same basis as those for Lake Superior ores. In the case of Cuba and Brazil the costs talked of are the bare operating costs, without any allowance for taxes, royalties or profits. A nodulized Cuban ore at the sea board should be compared with a Lake Superior ore of the same grade at Cleveland on the same basis of cost. Admitting that 52% Cuban ore costs without taxes, royalties or profits, $2.25 a ton on the Atlantic coast let us see what the Lake Superior ore will cost on the same basis.

The United States Steel Corporation could deliver its average Mesabi ore at Cleveland for $1.50 a ton.

From its best mines it could deliver such an ore for $1.10 a ton. It could deliver ores mined underground from the Vermillion Range for less than two dollars a ton.

The whole product of the Gogebic Range in Michigan can be delivered at Cleveland at an absolute cost not exceeding $2.35 a ton, and large tonnages for $2.15 a ton.

A large tonnage can be delivered from the Marquette Range of Michigan for two dollars a ton. Large quantities of ore can be delivered from the Crystal Falls and Iron River districts for $1.75 a ton.

It is evident from these figures that the advantage of the Cuban ore is more apparent than real. No one is going to mine Cuban ores without paying taxes or without expecting profits. There are the further disadvantages of having to secure and invest a large capital to provide facilities for shipping the Cuban ore at all. This disadvantage is very much more pronounced still in the case of Brazil.

I do not argue from these considerations that either Brazilian or Cuban ores will not be used for making steel on our eastern coast, for I think they will, but I am satisfied that their effect on prices will be absolutely nil and that it will be a long time before their competition will be even felt in the region now supplied with iron from the Lake Superior mines. At the most the foreign ores will affect the trade only on the sea-board. There is nothing in sight to challenge the dominance of the Lake mines in the whole interior of North America.

EFFECT OF TAKING OFF THE TARIFF ON MANUFACTURED IRON AND STEEL.

The same reasoning that applies to foreign ores applies to foreign manufactures in iron. They cannot come far inland. One consideration which is often forgotten is that the United States produces annually more iron than England and Germany together. "The tail cannot wag the dog." The gigantic thoroughly organized and established iron industry of the United States cannot be overthrown or even seriously deranged by the surplus of Europe. The only probable effect of taking off the tariff altogether would be to prevent prices from going unduly high in boom times and to divide the markets along the coasts. The iron made from Lake Superior ores will have an undisputed field from the Hudson river to the Rocky Mountains, and from the Ohio and Rio Grande to the Arctic ocean.

I believe these statements can hardly be seriously disputed and I recite them as reasons for my belief that the iron ore market will contin

the future on substantially the same course it has pursued in the past; at the demand is sure to increase, and that prices are more likely to be gher than they are to be lower than the average of the past seven years.

QUESTION OF ROYALTIES.

A large proportion of the iron ores are produced from leases, which ually have long terms, so that they might properly be called lease-lds. A majority of the operating companies pay royalties to fee own-and these royalties are to those operating companies a genuine and voidable expense. It is probably a uniform custom to make the der of a lease responsible for all taxes on the lands he leases. It ms hardly fair in view of these facts to assess the operating companies the royalties which they pay, because from their point of view the alty is an expense and not a profit. But in answering the plain ques-n which your Board asks, viz.: "what are these properties worth?" annot do otherwise than to consider royalties paid as net profits. The amounts of these royalties are in every case tabulated, together th the ownerships of the fees to which these royalties belong.

TAXES.

You will find in the various tabulations of costs and values that taxes e treated wherever reported as a separate expense and that the propor-n of these taxes to operating profits is given. In making appraisals have allowed each company under the head of General Expense as a rtion of the mining cost the average amount of taxes they have paid r ton during the past five years.

TABULATION OF COSTS.

The iron mines of Michigan are usually described as occurring in three anges"—the Gogebic, Marquette and Menominee, but for the purpose showing the facts in the most intelligible manner, they have been vided into groups, different from the usual classification. Our group-gs are determined essentially upon a basis of comparative uniformity geological occurrence, which necessarily determines the economic ctors of cost and value as follows:

District No. 1—The entire Gogebic Range in Michigan, Gogebic nty;
District No. 2—Iron River district, Iron county.
District No. 3—Crystal Falls district, Iron county;
District No. 4—Old Menominee district, Dickinson county;
District No. 5—Western Marquette range, Baraga county.
District No. 6—Marquette Hard Ore Mines, Marquette county;
District No. 7—Marquette Soft Ore Mines, Marquette county;
District No. 8—Swanzy district, Marquette county.
District No. 9—Various scattered low grade silicious mines, which oduce ores under exceptional circumstances and which have a limited rket.

The results are presented in a separate tabulation for each of these dis-icts. These tabulations show for the last five years—the total expendi-res, the production and receipts from ore, the ore reserves reported,

the total ore reserve counted on the calculation of the average valu ore from the grades reported in the ore reserves, the expected cost for future based on a study of costs ruling in the past, and a valuation each mine indicated by all the facts.

It is well to explain that the cost statements will show some inevita differences in detail. Until all the mines keep their books in exactly same way this is to be expected; but on the whole the variations not very great. They mainly arise from the fact that one company charge its expenditures for certain kinds of construction directly mining, while another company might put such expenditures into a se rate account, calling it "Construction." In the same way, there are tain variations in amounts charged to General Expense, explorati etc. The student of mining costs will have no difficulty in seeing w the statements mean in each case.

EXPLORATIONS.

This title in the cost statements usually refers to a general campa of search for ore by some of the larger companies. This work may may not be on lands owned by the company. It is a practice to t options on likely pieces of land and spend money for geological resear and explorations by drilling or test pitting. I have thought it fair allow the companies who conduct their business in this manner for t cost per ton of all this work. It is spread uniformly over the tonn produced by all the mines of such operating companies for the past years. I assume, also, that this expense will be continued and, co quently, allow the same charge in my estimates for future cost.

GENERAL FACTS BEARING ON THE VALUE OF THE IRON MINES.

In comparison with the copper mines, the situation of the iron mi is distinctly more favorable. Several considerations contribute to th

First: They are not facing any considerable deterioration in the m tallic contents of their ores, nor are they facing the impending exha tion of any commandingly important property. The probable downwa limit of ore occurrence is no where in sight.

Second: The condition of their ore reserves is excellent and th points to a continuance of production, with almost absolute certainty f a period of twenty-five years in advance.

Third: In contrast to the paucity of discoveries in the Copper co try, many new deposits have been discovered within recent years, so th in addition to the continuance of the present mines, there is reason expect that new ones will continue to come in.

Fourth: The actual earnings of all iron properties in the five yea under review were $57,400,000. This was earned by 78 mines on sal of 52,590,896 tons of ore. These are net profits over and above all e penditures including the purchase of new equipment, many outside e plorations and taxes. The copper mines earned fifty million dollars the same period, but by far the greater part of this was earned duri the years 1906 and 1907 when copper was abnormally high. Calculati on the normal price the earnings would have been only $41,200,000. I the case of iron mines the prices, and consequently, the earnings for th past five years were practically normal.

The actual ore in sight is sufficient to guarantee the production and earnings on the same basis for sixteen years. Without going further than this we can find reason for giving them a valuation of one hundred and fifteen million dollars. But it is practically as certain that the production can be maintained for twenty-five years as that it can continue sixteen years. With such a life the mines would be worth one hundred and fifty million dollars.

I am convinced that they are worth this amount, but, for two good reasons, it will be impossible to apportion the value among the various mines in order to bring them up to this total.

First: Because it is much easier to be sure of the endurance of a whole district than of a circumscribed tract covering a small part of the district.

Second: Important occurrences of ore are sometimes divided in ownerships in such a way as not only to diminish the probable profit to be obtained from them but also to throw doubt as to the proportion belonging to the different owners.

Both these factors are constantly in evidence in all the districts.

VALIDITY OF ESTIMATES OF ORE RESERVES.

Our calculations are based on three elements:

First: Ore found in drill holes. In practically all cases we have been compelled to estimate this ourselves by the very simple method of measuring the area which the drill holes seem to demonstrate to be occupied by a continuous ore body, and multiplying this area in square feet by the average thickness of ore shown in the holes of the group. The number of cubic feet thus calculated gives the tonnage by dividing by the number of cubic feet representing a ton of ore in the district to which the ore body belongs.

There is some latitude for the exercise of judgment in determining the area to be considered as demonstrated, but in no case have we taken areas greater than can be obtained by drawing lines fifty feet outside of holes in ore.

Second: Ore reported by companies as being in sight above bottom levels of their mines.

Third: An additional amount of ore added on my own judgment of what is reasonable for extensions below the bottom levels.

Since all of these calculations are based upon documents submitted by the companies themselves, it is plain that only one element in the estimates on expected tonnage is open to serious dispute, viz.: the extent to which my judgement may be in error in assuming the extensions. Only a portion of this element can be open to question because it is patent that there must be some extensions.

DISTRICT NO. 1. GOGEBIC RANGE.

In this district no ore whatever is indicated by drill holes. We have to consider the following facts: The ore formation consists of a narrow band of ferruginous rock about eight hundred feet thick inclined to the north at an angle of seventy degrees and extending fifteen miles in Michigan from the Montreal river to a point east of Wakefield.

The following table shows the amount of ore shipped by these mine up to the end of 1910 and the amount reported in sight above the bottom levels:

	Tonnage shipped to end of 1910.	Reported in sight.	Total above present bottom levels.
Ashland	5,618,300	197,000	5,815,3
Norrie	25,385,930	9,361,500	34,747,4
Newport	7,027,363	5,475,000	12,502,3
Puritan	150,590	50,000	200,5
Ironton	958,910	130,000	1,088,9
Yale	481,426	0	481,4
Colby	2,645,101	815,800	3,460,9
Tilden	5,188,572	404,500	5,593,0
Anvil and Palms	2,058,686	379,000	2,437,6
Eureka	503,745	65,000	568,7
Asteroid	0	10,000	10,0
Mikado	1,049,800	20,000	1,069,8
Chicago	68,727	184,000	253,7
Brotherton	1,855,124	995,000	1,950,1
Sunday Lake	1,422,461	150,000	1,572,4
Castle	55,444	1,000	56,4
Total	54,479,269	17,338,800	71,818,0

To this figure of 71,817,000 should be added 3,600,000 tons additional for a correction, which I will not take time to explain, giving a total showing of 75,400,000 tons above the average bottom level which is 1,450 feet deep.

Now, we find that on the bottom levels there is exposed in this range a total area of 662,000 square feet of ore avoiding all duplicate sections of any ore body and, since ten cubic feet will make a ton this is equal to 66,000 tons for every additional vertical foot. Working this back toward the surface we find that the depth of 1,450 feet would mean more than ninety million tons instead of the seventy-five million tons accounted for. In other words, the showing of ore on the bottom levels is actually better than the average of the mines during their past history. Furthermore, the deepest of the mines is 2,140 feet deep, being seven hundred feet lower than the average. At this depth the showing of at least one ore body is magnificent and it will surely go much deeper. With these facts in view no intelligent mining man will disagree with the opinion that large additions to the measurable reserves is absolutely called for before any adequate figure for the valuation of the mines can be reached. It is perfectly rational to expect them to produce as much ore in the future as they have in the past. However, I have been cautious in assuming great extensions.

NORRIE MINE.

The property is two miles long. One section at the west end is developed down to the vertical depth of 1,592 feet. Along the central section of the bottom level is approximately 1,200 feet and toward the east and 1,445 feet. We may say that this mine is developed to an average depth of 1,400 feet. Above this level there are reported in sight 361,500 tons of ore. One great ore body at the east end of this property is developed to a depth of 1,445 feet. It is known to be the same ore body which has been developed in the neighboring Newport Mines to the east to the additional depth of 388 feet. The area of the Norrie in this body is 182,000 square feet. In the Newport on the 1,940 foot level the area is 306,000 square feet. The average of these two sections is 244,000 square feet. This gives a volume of 9,467,000 tons of ore between these two levels, of which 7,200,000 is accounted for and the remainder 2,271,000 is to be added to the Norrie. This whole amount has to be added to the ore reserves reported being the total of assured ore up to over 11,600,000 tons.

In the central and western portions of the mine there is exposed a total area of 205,000 square feet of ore at the bottom, of which 195,000 square feet is only developed to the 1,200 foot level. The smaller ore body is just entering the property at the extreme west end at a depth of 1,592 feet. If the great Central ore body goes down merely to the depth demonstrated for the smaller Western body it will yield seven millions additional. If it goes down to the depth to which the Eastern ore body is developed on the Newport, 2,140 feet, it will yield an additional sixteen million tons. But for our purposes I only add a modest 6,400,000 tons for the continuation of these bodies bringing up my total estimate for the Norrie to about 18,000,000 tons, which is sufficient to last the mine at the rate of its average sales for the last five years, for seventeen years. It is almost needless to say that this estimate is moderate and undoubtedly below the expectations of the owners.

NEWPORT MINE.

This is the deepest mine not only on the Gogebic Range but in the whole Lake Superior iron region. It is now working principally upon a great body of ore which has descended into it from the Westward through the Norrie property. Above the 2,140 foot level there is reported in sight 5,475,000 tons. To this can be added, with absolute confidence, 3,600,000 tons, merely by assuming that the developments on the 2,140 level will show the ore to be as large on that level as it is on the 1,940 level. This development has already progressed enough to demonstrate this as a practical certainty. This makes our estimate nine million tons assured. The question remains how much ore should be allowed below the 2,140 foot level. An assumed extension of 270 feet additional depth would give us eight million tons. Another assumption based on the possible termination of the ore body against a certain dyke about one thousand feet to the eastward of the center point of the present ore body gives approximately the same estimate, viz.: eight million tons. If we use this we might assume a total of some seventeen million tons for this property. This is entirely reasonable because it is based only on one ore body. The Norrie mine shows two other large ore bodies below the one on which the Newport is working, and both pitching eastward into

the Newport property. Absolutely nothing is known about the depth to which this mineralization may extend. I am satisfied that an expected life of twenty years at 800,000 tons a year will not meet with serious dissent on the part of the owners.

OTHER MINES ON THE GOGEBIC.

It will be noticed that the Norrie and Newport together have shipped 60% of the whole output of the District. They are credited with 80% of ore reserves. During the past five years they have made 75% of the profits of the district.

These comparisons are more than reflected in the valuations put on mines, the Newport and Norrie together accounting for approximately 84% of the valuation. I am satisfied that this proportion for the Newport and Norrie is too high and too low for the others. But it is not on the whole unfair to the operating companies because the Norrie Mine is owned by the Oliver Iron Mining Company which also controls the Tilden, Puritan, Geneva, Davis and Chicago properties. These mines cover an important part of the range outside of the great central ore body, but in all cases I have given them either no value at all or merely a nominal value because the ore reserves are small and the costs have been high.

The Newport Mining Company controls, beside its main mine, the Anvil and Palms, on which an exceedingly promising ore body has been found. It will probably prove to have a much higher value than I have given it.

The other mines are given tonnage somewhat in proportion to their past records.

The Colby Mine I am crediting with an expectation of fifteen hundred thousand tons to be mined in ten years. This property has shipped in the past 2,645,000 tons and reports 815,000 in sight, making a total of 3,460,000 tons. The mine gives no indication of being bottomed or worked out, and I have added for extensions of its present ore bodies 20% for ore yet undeveloped. I am satisfied that it will produce more.

The Ironton Mine has shipped 958,000 tons and reports in sight 130,000 tons, giving a total of 1,088,000 tons. It has recently cut an ore body in the north formation, which from its position is probably important. I think it reasonable to assume, therefore, that the mine will develop ore equal to a third of that it can account for at present.

The Mikado Mine has shipped 1,050,000 tons and reports 20,000 in sight. Since this mine shows no indication whatever of playing out, I think it reasonable to assume that it will produce half a million tons more, largely because it is improving in the bottom after passing one or two rather poor levels.

The Brotherton and Sunday Lake Mines together account for more than 3,500,000 tons of ore. They are working on the same ore body which seems to be pitching to the eastward. It shows remarkable continuity and is improving. The bottom level, 1,068 feet deep in each, shows a continuous body of ore 1,700 feet long with an area of excellent ore 61,000 square feet. It is divided about equally between the two properties. This is equal to 6,000 tons per vertical foot. I think it fair to assume that this ore body will produce 2,500,000 at least. On account of the pitch towards the Sunday Lake I give that property three-fifths of this expected tonnage.

For the district as a whole, it will appear from the table that I have n fit to increase the tonnage reported in sight from 17,400,000 to ,900,000. Of this increase I consider 11,000,000 tons to be practically monstrated, bringing the total of demonstrated ore up to 28,400,000. m assuming 14,500,000 tons more for extensions of the principal ore dies beyond their present bottom levels. This means an extension of s than three hundred feet in depth and increasing their present depth y 20%.

VALUATION IN DISTRICT NO. 1.

A high average grade and consequent high value of the ore of this dis- t makes the value of its mines higher than the other districts, in spite the fact that the expected tonnage is less than in some of the others. he total valuation of the group is $41,560,000 based on an expected re product of 43,000,000 tons and an annual output of about 0,000 tons.

DISTRICT NO. 2. IRON RIVER.

r. Leith describes this district as follows:

The ores are in closely folded upper Huronian slates. The iron forma- lenses are uniformly steep dipping. In a large way they have a dis- t linear trend but almost every property shows major and minor les and considerable narrowing or widening of the formation. The of the ore body may be all slate, all jasper or any combination of two. The larger ore bodies occur in places where formation has thickened by folding. The axes of these folds are favorable places the concentration of ore. They have steep pitches and should have t persistence in depth. * * * As would be expected under these ditions, individual ore bodies have the greatest irregularity in outline, ough looked at in a large way, they may conform to the major trend he district. The under-ground developments are yet shallow, the deep- mine being 690 feet deep and the average being about 450 feet. Drill- however, has shown the ore to go down to a depth of 1,712 feet."

he active mines show the following record to the end of 1910:

	Tons shipped.	Tons in sight above bottom.	Total.
(James)	231,359	520,000	751,359
	181,427	43,000	224,427
	614,496	254,993	869,489
	84,420		84,420
	2,195,146	372,259	2,567,405
	1,340,593	713,000	2,053,593
	168,936	460,000	628,936
	699,305	3,505,500	4,204,805
	473,784	250,000	723,784
	37,690	1,000,000	1,037,690
	135,734	563,000	698,734
Total	6,162,890	7,681,752	13,844,642

The exposure of ore in the bottom levels of these mines is approximately 1,100,000 square feet. Drilling in this district shows ore in a hole at 1,712 feet from the surface and in several others at a depth more than 1,500 feet. If we imagine that the ore shown in these mi will approximate an inverted pyramid the point of which is 1,500 f below the present bottom, we get a tonnage from these exposures al of more than 45,000,000.

A rough estimate of additional ore shown by drilling is as follows:

Davidson ore	2,000,000 tons.
Rogers mine	2,500,000 tons.
N. Y. State Steel	2,000,000 tons.
Michaels	1,000,000 tons.
Tully	3,500,000 tons.
Donahue	800,000 tons.
McGovern	350,000 tons.
Bates	400,000 tons.
Wickwire	41,000 tons.
Erickson	732,000 tons.
Total	13,323,000 tons.

In summary we get the following:

Expectation of continuations from bottom levels	45,000,000 to
Shown by drilling	13,000,000 to
Ore reported in sight in active mines	7,500,000 to

We get here a total of approximately 65,000,000 tons as a reasona estimate. I have no doubt this will be greatly exceeded for the area ore in sight in these mines is two and one-half times as great as was t average of the old Menominee Range which has accounted for 50,000,0 five times as great as the Crystal Falls district which has accounted f 20,000,000 tons and one and one-half times as great as the Gogebic Ran which accounts for 75,000,000 tons. All these comparisons would le one to believe that this district would produce 110,000,000 tons by t time it reaches the state of development in which the other distric now are. It contains one of the greatest ore reserves in Michigan, not quite the largest.

DAVIDSON MINE.

This property is still in the developing stage, having shipped no o It reports 2,000,000 tons in sight which is a reasonable estimate.

OSANA MINE.

This property has a tremendous showing on its bottom level, no l than 159,000 square feet of ore being exposed at a depth of 300 feet low the rock surface. The ore body is apparently irregular for t third level shows a cross section of only 20,625 square feet. I have hesitation in raising the tonnage to be expected from this mine 2,000,000 tons.

WAUSECA MINE.

This property has shipped no ore but shows two levels each with a cross section of approximately 30,000 square feet. The lowest levels are the bottom level being 400 feet deep. The company reports 40,000 tons in sight but I have no hesitation in increasing this amount to half a million and adding another half million for good measure, which will bring the total expectation up to 1,000,000 tons.

NANAIMO MINE.

This property is described as exhausted.

CHATHAM MINE.

This property reports 43,000 tons in sight with an exposure in bottom level of 6,000 square feet. I count on it for 100,000 tons.

HIAWATHA MINE.

Reports 254,993 tons in sight with an exposure of 32,000 square feet on the bottom level. It accounts for nearly 900,000 tons with a depth of 575 feet below the rock surface. Apparently the mine is as good as ever and a million tons is a reasonable estimate for its future.

CHICAGO MINE.

This company has shipped no ore but reports 390,305 tons in sight above the bottom level which is 500 feet deep, and shows an area of 13,000 square feet of ore. 600,000 tons is a reasonable estimate for this mine.

TULLY AND BAKER.

The Baker is a small property which contains an ore body that has worked across the line of the neighboring Tully Mine to the westward. The Tully shows three important ore bodies by drilling. A conservative estimate of these shows up 3,500,000 tons. Nothing was reported in sight.

MICHAEL'S AND BLAIR'S EXPLORATIONS.

On the Michael property ore is shown up in drilling at a depth of 1,712 feet. Five holes show an average depth of 210 feet in ore. There is, at least, 1,000,000 tons indicated here, but on account of its depth it will not be available for a long time.

MCGILLIS, DOBER AND ISABELLA MINES.

These properties are all owned by the Oliver Iron Mining Company and account for 2,500,000 tons above a depth of 690 feet. The total area of ore exposed at the bottom of these mines is 47,600 square feet, enough to make 4,000 tons per vertical foot. It seems safe to add 40% of the total ore accounted for for future expectations which will be equal to 1,000,000 tons in addition to 372,000 tons reported in sight making about 1,400,000 tons.

BALTIC AND FOGARTY MINES.

These mines are operated together. The Baltic accounts for 2,050,000 tons of ore above the 450 level. This means about 4,500 tons per vertical foot which is accounted for by an average cross-section of 54,000 square feet. The lowest developed level shows an area of 74,000 square feet, enough to make more than 6,000 tons per vertical foot. It is perfectly safe to add 1,000,000 tons for additional ore in this property, making a total expectation of 1,700,000 tons. The Fogarty is only 250 feet deep, of which a considerable part is occupied by surface gravel. At this depth it accounts for a total of 630,000 tons, of which 460,000 tons are in sight. Its bottom level shows an area of 74,800 feet. There is every reason to expect that this mine will prove as productive as the Baltic which will enable us to add 2,500,000 tons as a reasonable extension, giving it nearly 3,000,000 tons for the future.

CASPIAN MINE.

The Caspian Mine accounts for 4,200,000 tons above the bottom level which is 290 feet deep, the sand being probably more than 100 feet on the average. This mine has one of the largest ore bodies in the whole Lake Superior region, showing on its bottom level a cross section of 377,000 square feet, or about 8 and one-half acres between vertical walls. This is sufficient to make more than 30,000 tons for each vertical foot. The ore is actually known to occur 100 feet deeper than the present bottom and immediately north and in its trend drill holes show great quantities of ore at more than 1,300 feet deep. I have not the slightest hesitation in counting on this mine for 10,000,000 tons of ore which is sufficient to maintain an output of 400,000 tons a year for 25 years.

HOULIHAN MINE.

This property is north of the Caspian. One partially developed level immediately under the sand shows a cross-section of 167,000 square feet. It may prove to be as large as the Caspian but I give it a tonnage of only 5,000,000 tons, this being sufficient to maintain an output of 250,000 tons a year for 20 years.

YOUNGS MINE.

This property reports a total of 725,000 tons of ore, of which 250,000 tons are in sight above the 418 foot level. Part of the ore is pitching northward onto the neighboring Fogarty mine. It shows an area in the bottom of 42,000 square feet, enough to make 3,500 tons per vertical foot. A reasonable extension for such an ore body would be 750,000 tons, bringing the total expectation up to 1,000,000 for the future.

ZIMMERMAN MINE.

This property shows on one fully developed level an area of 50,000 square feet of ore. Ore is shown in a drill hole 200 feet below this level. The company counts on 1,000,000 tons, which is a very reasonable estimate.

BERKSHIRE MINE.

This property accounts for about 700,000 tons above the bottom level hich is about 300 feet below the rock surface. It reports 563,000 tons sight and on its lowest developed level shows a cross-section of 25,500 uare feet. 1,000,000 tons is a reasonable expectation for the future this mine.

ROGERS MINE.

This property is still in the development stage, but shows up a very ge amount of ore by drilling. I estimate the mine at 2,500,000 tons, t it is not all merchantable, some of it being mixed with man- nese.

The total amount of ore apportioned among the Iron River mines is ly 42,000,000 tons which I believe, as explained above, is far less than y reasonably be expected. Nevertheless, it is sufficient to maintain e average tonnage of the past five years for fifty years and gives these ines all the present values that can be charged against them at pres- t with propriety. An extension of life beyond fifty years has little no present value. The demand for ores in this district is moderate, hough it will probably increase rapidly from now on. At present e biggest mines in the district are shut down. On account of the tent fact that almost every mine in the district has enough ore to ep up its output at the rate at which it can be marketed for 15 or years, I have not thought it worth while to make any effort to esti- ate the ore with any great care.

DISTRICT NO. 3. CRYSTAL FALLS.

Dr. Leith has the following to say about this district:

"The ores are in upper Huronian slates, except for the Mansfield, hich is in a band of slates in the Hemlock volcanics, and the Grove- nd which lies at the base of the upper Huronian series in the Felch hist. As in the Iron River district, the iron formation lenses are eply tilted, much folded and show great variations in thickness. The alls may be slate or jasper or any combination of the two. The larger e bodies occur in folds in the iron formation, which have thickened e iron formation. The pitch of these folds has considerable per- tence in depth. There are few forties containing iron formation here some ore has not been found."

He also says, "in addition to the ore shown in mines, there are 7,000 square feet of ore shown by drilling, which by conservative esti- ate indicates 1,412,000 tons."

The active mines of the district show the following record to the end of 910:

	Tons shipped.	Tons in sight above bottom.	Total.
Hollister	96,416		96,4
Crystal Falls	1,735,251	42,000	1,777,2
McDonald	7,166	10,000	17,1
Bristol	2,456,100	522,000	2,978,1
Armenia	377,081	50,300	427,3
Great Western	1,952,937	97,300	2,050,2
Tobin	1,630,349	135,300	1,765,6
Dunn	1,658,015	67,000	1,725,0
Michigan	171,719	78,000	249,7
Hemlock	1,705,226	125,000	1,830,2
Mansfield	1,217,355	32,000	1,249,3
Total	13,007,815	1,158,900	14,166,7

These mines are estimated by Dr. Leith to have an average depth 1,023 feet, weighted according to the tonnage extracted. When come to compare the bottom areas with the ore extracted to this dep allowing 12 cubic feet to the ton of ore, we find that the present bott area exceeds that of the average area in the past by nearly 30 per ce the total tonnage accounted for being 14,000,000 tons, which means th about 14,000 tons has been the average per vertical foot, which wou give an average horizontal cross-section of 168,000 square feet. T actual cross-section at the bottoms is 207,250 square feet. This showi is exceedingly favorable. It is probably safe to add for future discove an amount equal to 50% of what has been accounted for to date.

HOLLISTER MINE.

This is an unprofitable mine with an insignificant showing. I ma no estimate for it. The same thing may be said of the McDonald.

MANSFIELD MINE.

The Mansfield mine is 1,200 feet deep. That depth accounts fo 1,250,000 tons, which means 10,400 tons per vertical foot and a cro section of 12,500 square feet for the average. The deposit is diminis ing in size so slowly that there is little danger in assuming that it probable extension will amount to about 500,000 tons. This is equal t a product of 75,000 tons a year for seven years.

BRISTOL MINE.

This property at a depth of 960 feet accounts for close to 3,000,0 tons, which is equivalent to 3,200 tons per vertical foot, indicating a average cross-section of 38,000 square feet. This is now diminished a the bottom to 26,000, indicating a diminution of 2,500 square feet fo

each 100 feet additional depth. This indicates that the mine would be bottomed at a depth of 2,000 feet and that the additional tonnage expected might be estimated at about 1,000,000 tons. This in addition to 522,000 tons reported in sight, gives an expectation of approximately one and one-half million tons. This is sufficient to maintain an output of 250,000 tons for six years.

ARMENIA MINE.

The bottom level is 566 feet deep and the total accounted for is 427,000 tons. This indicates an average of less than 800 tons per vertical foot, which would be provided for by ore bodies having an average cross section of less than 10,000 square feet. At the bottom the mine shows an area of 20,500 square feet in ore. It is perfectly safe to count on this mine for half a million tons additional ore. This, with the amount reported in sight, is sufficient to maintain a tonnage of 55,000 tons for ten years.

GREAT WESTERN.

This property has on the 1,157 foot level an area of 33,000 square feet. Above this it accounts for a total of 2,050,000 tons, indicating an average of almost 2,000 tons per vertical foot, which would be provided by ore bodies having an average cross-section of 24,000 square feet. The area of the bottom level is 33,000 square feet, enough to produce 2,750 tons per vertical foot. Ore has actually been reached at the 1,267 foot level. The condition of the property is apparently excellent, and I have no hesitation in adding an expectation of 700,000 tons to the amount reported. This will give 800,000 tons, or enough to maintain an output of 100,000 tons a year for eight years.

TOBIN AND GENESEE.

This mine down to the 1,100 foot level accounts for a tonnage of 1,765,000 tons, equal to 1,500 tons per vertical foot, which would be provided by an average cross-section of ore of 18,000 square feet. The mine shows an area of ore on the bottom level equal to 65,000 square feet, sufficient to make 5,400 tons per vertical foot. This has actually been demonstrated to continue 125 feet deeper, which would enable us to estimate 675,000 tons more. This, with the amount reported in sight, namely, 135,000 tons, gives us 810,000 tons. I have no hesitation in figuring that this mine is not more than half worked out, and, assuming that it will produce as much in the future as accounted for in the past, 1,765,000 tons, which is sufficient to maintain a tonnage of 200,000 tons a year for nearly nine years.

CRYSTAL FALLS MINE.

The Crystal Falls Mine is 1,063 feet deep and has produced and (at that depth) can account for nearly 1,800,000 tons, or approximately 1,700 tons per vertical foot, which requires an average cross-section of 21,000 square feet. The bottom level shows only 17,000 square feet, indicating some weakening, but nothing very serious. It is safe to count

on this mine producing half a million tons more, equal to 50,000 tons a year for ten years.

DUNN MINE.

This property is 1,500 feet deep and its ore body has reached the boundary line. I count on it for only about 117,000 tons.

MICHIGAN MINE.

This property accounts for 250,000 tons at a depth of 600 feet. The output would be produced by an ore body having an average cross-section of 5,000 square feet. At the bottom the mine shows an area of 2,880 square feet in ore. It is getting rather small and I do not count on the property producing more than 100,000 tons, which is only 22,000 tons more than is reported in sight.

HEMLOCK MINE.

This property is 935 feet deep and accounts for 1,830,000 tons. Its lowest developed level shows an area of 22,000 square feet, but a still lower level has failed to find the ore. On this account only half a level is allowed below the 935 foot level, giving 55,000 tons to be added to reported estimate of 125,000 tons, or a total of 180,000 tons.

VALUATIONS IN DISTRICT NO. 3.

In all cases I am allowing for increase of mining costs due to increasing depths and the exhaustion of the mines. I am counting on the active mines for an annual product of only 880,000 tons against annual shipments of 1,220,000 tons for the past five years, the expectation being that the falling off in this district will be made up in the Iron River district. Ore found in drill holes is appraised on a basis similar to that of Iron River.

The total valuation of the district is placed at $6,297,000 and an expected tonnage of 8,064,000 tons. This is equivalent to about 75 cents a ton for the expected ore as against only 40 cents for Iron River district. This difference in valuation is caused by the difference in the expected life of the properties.

DISTRICT NO. 4. OLD MENOMINEE RANGE.

The active mines present the following record to the end of 1910:

	Tons shipped.	Tons in sight above bottom.	Total.
Penn Iron Mining Co.	8,845,135	1,437,265	10,282,[illegible]
Pewabic	7,3[illegible]7,165	1,233,000	8,590,[illegible]
Loretto	1,3[illegible]1,068	1,107,424	2,418,[illegible]
Chapin	17,649,477	4,194,679	21,844,[illegible]
Aragon	6,077,327	1,085,000	7,162,[illegible]
Millie	368,267	20,000	388,[illegible]
Total	41,568,439	9,077,368	50,645,[illegible]

Dr. Leith has the following to say in regard to the ores of this district:

"The ores are partly in tabular bodies paralled to bedding, and partly in more or less well developed pitching folds bottomed by dolomite, talc-schist or slate and are, therefore, elongated in the direction of the pitch. The degree to which the ore is found to follow these pitches varies in different mines and in different parts of the same mine; in general, the pitches being less well developed near the surface than below. The folds unquestionably pitch a long distance below the present bottom levels and there seems to be no reason geologically in the character of the rock and alterations or other features of the bottom levels, why the ore, at least for shallower mines, should not continue on these pitches to as great a distance below the surface as have been reached by the deepest mines of the district, and probably even greater depths."

Dr. Leith also states, "The total area of ore on fully developed bottom levels of the Menominee district in which the ore is not known to be cut off by rock or pitching off the property within a limited distance, is 263,435 square feet. The average depths of these bottom levels, weighted according to tonnage, which has been shipped from the mine, is 1,160 feet. If the ore shown in bottom levels continues with present areas to the depth of the deepest known ore, this would give 6,320,000 tons as probable ore for the district."

The salient facts which appeal to me are the following: The total amount of ore accounted for above the 1,160 foot level is 50,645,807 tons. This means that the average horizontal area of the ore bodies has been in the past approximately 440,000 square feet. If we assume that this area is normal for the 580 foot level and that for the 1,160 foot level the area is only 263,000 square feet, we get a diminution of approximately 180,000 square feet in 600 feet. This means that each additional 100 feet in depth means a diminution of area of 30,000 square feet. On this basis we might assume that the ore would vanish at a depth of 1,900 feet. This assumption would leave us below the present bottoms approximately 9,000,000 tons.

PENN IRON MINING COMPANY.

This company owns the Cyclops, Norway, East and West Vulcan, Curry and Brier Hill mines, covering a length of three miles along the Menominee Iron Ore formation. It shows at an average depth of 930 feet—71,245 square feet of ore. It accounts for a total of 10,282,000 tons to a vertical producing depth of 900 feet. We may assume that at a depth of 450 feet, the average horizontal area of the ore bodies would have been 115,000 square feet which is diminished at the present bottom to 71,000. This means a diminution for each 100 feet of approximately 40,000 square feet of area and points to a probable tonnage yet to be opened up of 2,400,000 tons. Adding this to 1,437,000 tons in sight would give a probable future tonnage of 3,800,000 tons which is enough to last the mine at its average production for ten years.

As a matter of fact these mines have as much in sight now as they ever had; considerable additions in the last two or three years having been made to the tonnage in sight. Our figures mean that an assumption is made that ore will be found in the future equivalent to 23% of what has been found in the past.

PEWABIC MINE.

This was formerly a very high grade and profitable mine, but it has been bottomed. No estimate whatever is made for continuance.

CHAPIN MINE.

This great property shows at a depth of 1,400 feet an area of ore amounting to 140,000 square feet. Above this level it accounts for 21,844,000 tons. The average cross-section assumed at 700 feet depth was only 160,000 square feet. The diminution in volume with depth, therefore, is slow and the prospects for the future are considerable. The developments on the bottom level, however, are not quite so favorable as they look, and I would assume that the mine will be bottomed at the same increase of depth as in the case of the Penn. This will give us about 4,900,000 tons, or again, about 23% as much as has been discovered in the past. This amount added to what is reported in sight gives 9,000,000 tons for the property, sufficient to maintain an output of 600,000 tons for 15 years.

ARAGON MINE.

This property shows at a depth of 1,100 feet an area of developed ore of 31,000 square feet. It accounts for 7,200,000 tons above this level which means an average section of 65,000 square feet, and a diminution of 6,500 feet for each level. This means that the mine will be bottomed at 500 feet deeper and gives us an additional tonnage of only 750,000 tons. My calculation, therefore, for this mine is that it can produce this amount in addition to 1,085,000 tons reported in sight, in all 1,800,000 tons, sufficient to maintain an output of 180,000 tons for ten years.

LORETTO MINE.

At a depth of 800 feet, this mine shows a cross-section of 21,200 square feet. The average in the past has been over 30,000 square feet. It is losing volume, therefore, at a rate of about 2,250 square feet for each level, which would bottom the mine at a depth of 1,700 feet and justifies an expected extension of tonnage equal to about 900,000 tons. We can, therefore, give this mine a total expectation of 2,000,000 tons and a life of twenty years at 100,000 tons a year.

MILLIE MINE.

This property only shows 20,000 tons in sight and shipments of 368,000 tons in the past. On account of certain developments in the Chapin Mine immediately below it and to the westward, I think it fair to assume that this mine can produce as much ore in the future as it has in the past.

VALUATIONS IN DISTRICT NO. 4.

It will be noted that this is the least promising in Michigan for the future. It has been shipping annually more than 1,860,000 tons. I am

counting on a product for the future of only 1,540,000 tons, expecting as in the case of Crystal Falls that the falling off will be made up in Iron River. The total valuation of these mines is $11,391,000 based on an expected tonnage of 18,233,000 tons.

DISTRICT NO. 5. MINES OF THE WESTERN MARQUETTE RANGE IN BARAGA COUNTY.

This district has never been profitable to any considerable extent. It contains only four mines which are spasmodically active, namely, the Imperial, belonging to the Cleveland Cliffs Company, and the Ohio, Portland and Beaufort, belonging to the Niagara Iron Mining Company.

The Imperial reports	1,500,000 tons.
The Ohio reports	117,000 tons.
The Portland reports	247,000 tons.

There is no occasion to add anything to the estimate of the Imperial. Dr. Leith finds reason to add 200,000 tons of probable ore to the Ohio and Beaufort, bringing the total of this district up to 2,064,000 tons.

VALUATIONS IN DISTRICT NO. 5.

The only mine in this group that has any pretentions as to value is the Imperial, which is put down at $335,000.

DISTRICT NO. 6. MARQUETTE HARD ORE MINES.

The record of shipments of the active mines of this district is not easy to obtain because the mining companies report hard ores and soft ores together. The distribution of tonnages for this and district No. 7 is only approximate.

Dr. Leith describes this group as follows:

"The ores at the top of the Negaunee formation just below the Goodrich quartzite are throughout the district hard hematites, locally more or less specular and magnetic. In certain of the mines the basal conglomerate of the upper Huronian which rests against these ores is also sufficiently rich to be mined and constitutes a part of the ore bodies. The ore bodies are tabular in shape parallel to the steep dipping contact of the Negaunee and Goodrich quartzite, though locally folded and faulted. Soft hematite is locally found in these mines in the jasper foot wall. In the Section 16 mine the hematite and hard ore have come together on the bottom level, and the soft ore is becoming relatively more abundant."

"The aggregate area of bottom levels of such of these mines as have not been nearly exhausted is 350,000 square feet. The average depth of producing mines not weighted according to tonnage is 1,041 feet. These ores have been mined to a depth of 1,984 feet at Champion and this group, as a whole, constitutes the deepest of the Marquette mines. The persistence of the ore-bearing horizons to the present levels is taken to promise well for still further persistence in depth."

REPUBLIC.

This property at a depth of 1,900 feet has shipped 6,344,000 tons and reports in sight 1,358,000 tons making a total of 7,800,000 tons. The ore is very dense and seven cubic feet of it, in place, makes a ton. Two ore bodies at or near the bottom show an area of 35,000 square feet, sufficient to make 5,000 tons to the vertical foot, but one of them is weakening. Still, in view of the fact that the showing of ore at the bottom, if projected to the surface, is sufficient to account for the whole tonnage mined to date; the mine may be said to look very well at the bottom and I think it reasonable to add an expectation of 20% of the amount already accounted for for future discovery. This makes a total expected tonnage of 2,900,000 tons.

WASHINGTON AND BARRON.

These properties have had a spasmodic activity for forty years and have not been very profitable. They have produced altogether probably a million tons and report 300,000 tons in sight, which Dr. Leith increased to 432,000 tons.

AMERICAN.

This property also has been worked spasmodically. It produces a good grade of ore and has recently been profitable. No estimate of ore in sight was turned in by the company, but Dr. Leith estimates it at 500,000 tons.

VOLUNTEER.

This property is really producing at present soft ore, but it has in former years produced hard ore. It is not much more than a prospect. It only reports 30,000 tons in sight, but some drilling indicates a considerable ore body and I place its future expectation at 150,000 tons.

LAKE SUPERIOR HARD ORE.

There is some uncertainty as to the location of certain tonnages reported by the Oliver Iron Mining Company for the Lake Superior group. The Hard Ore, Section 16 and Section 21 mines are treated as a unit. I take it that any mistakes in apportioning tonnage to these mines will not be of consequence on account of unity of ownership. Dr. Leith's inquiries at the company's office showed that they counted on the Hard Ore mine for 1,470,000 tons in sight. A neighboring property which will undoubtedly be operated by this plant shows by drilling the continuation of an ore body worked out by the Cleveland Cliffs Company at the old Morro mine. The ore is on an 80 acre tract. From drill records a rather optimistic estimate was made by the local engineers of 1,500,000 tons, but the Morro mine accounts for a final total of only 900,000 tons. I do not think more than 800,000 tons should be credited to this reserve. This makes a total of 2,270,000 tons for the old Hard Ore mine.

This is an interesting old property which has been worked for more than 50 years and apparently is good for 20 years at a moderate output.

SECTION 16.

Some of the ores from this property are soft ores. The amount reported in sight is 5,311,355 tons. The bottom level 1,080 feet deep shows an area in ore of 168,000 square feet. On account of the dense character of the ore, only 8 or 9 cubic feet is required for a ton. Below this level ore is shown to go down 155 feet. Now since the bottom level shows an area capable of producing about 20,000 tons per vertical foot, we might assume that if the ore body holds its volume this increase of depth would yield about 3,000,000 tons. Dr. Leith reports a probable extension amounting to 4,135,000 tons and an expected total of 9,446,000 tons. Dr. Leith and I both agree that this estimate seems rather optimistic, but, at any rate, the tonnage to be counted on is surely sufficient to keep up the production to the capacity of the equipment, say 300,000 tons a year for twenty-five years. This is long enough to establish the present value.

CHAMPION MINE.

This property has been working spasmodically for many years. Its bottom level is 1,984 feet deep with an area of 40,000 square feet. The amount reported in sight is 1,625,000 tons. This with the former shipments of 4,413,000 tons makes the mine account for more than 6,000,000 tons to its present depth. As in the case of most of the other mines of this class where there is no considerable deterioration, I think it fair to assume that an additional 20% can be added safely. On this basis the mine can produce 2,825,000 tons, sufficient to maintain an output of 100,000 tons a year for twenty-eight years.

THE CLIFFS SHAFT.

This mine reports available 2,167,000 tons. A certain area has a possibility of adding 1,800,000 tons more, but as nothing is sure, I make only a slight addition to the tonnage reported available, bringing it up to 2,500,000 tons. This is sufficient to keep the mine going at 250,000 tons a year for ten years.

NORTH LAKE NO. 2 ORE BODY.

This property reports 594,000 tons.

Cleveland Cliffs Co. reports drilling in the vicinity of Ishpeming on which Dr. Leith estimates 629,000 tons of ore not at present available.

VALUATION IN DISTRICT NO. 6.

These mines are generally long-lived and while some moderate increase of cost may be expected in the future, the conditions may be counted on to remain substantially as they have been in the past. The tabulation shows an expected annual tonnage of 1,224,000 tons as against an average tonnage shipped of slightly under 800,000 tons. The difference here is apparent, not real, because the shipments from the Lake Superior

group have not been properly apportioned between the hard and soft ore mines.

The total valuation of the group is $12,132,000 on a total expected tonnage of 21,667,000 tons.

DISTRICT NO. 7. MARQUETTE SOFT ORE MINES.

This district rivals the Iron River in its promise for the future. It is hardly possible to give a summary of the past shipments of these mines because the shipments reported include very large mixtures from the mines of District No. 6.

Dr. Leith has the following to say regarding this group:

"The ore bodies are located with the Negaunee formation in its middle and lower horizons and show great variety of shape. In the Negaunee basin, it is a gently folded and faulted sheet, with comparatively low pitch to the south of west. In the Prince of Wales, Breitung No. 2, Mary Charlotte, Rolling Mill and Cambria and Hartford areas the tabular development is less well marked, the ore bodies occurring in more or less shallow channel-like lenses in the jasper with relatively low pitch with great local irregularities and cut by dikes. In the Lake Angeline area the ores are in sharp troughs in greenstone. The bottoms of these troughs have relatively low pitch."

"The aggregate total area of bottom levels of the mines of this group is about 1,045,000 square feet, but in view of the fact that the ore bodies have, in general, a low pitch, this aggregate area cannot be fairly compared with the areas of the hard ore mines in this district, or of the ores of the Menominee, Crystal Falls, Iron River and Gogebic districts. More closely correlative would be the area of a section across the pitch. With a flat pitch the projection of present bottom levels downward would involve so large a lateral migration that in a number of cases they go off the property. It is apparent also with the flatness of the pitch that the areas or cross-sections in adjacent properties are frequently duplicates, the same ore body running through both properties and being cut at different elevations."

"Drilling in the soft ore horizon has disclosed a vast amount of ore and has opened up possibilities which will not be exhausted for many years. The most notable results of this drilling have been in the area bounded on the north by the Negaunee, Maas and Cambria mines and on the southeast by the Mary Charlotte and Rolling Mill. There is scarcely a forty in this area which has either not shown ore or does not lie in such relation to discoveries as to indicate a strong probability of ore. The ore has been cut to a maximum depth of 2,375 feet."

The soft ores lying in the middle or upper portion of this formation upon sills of greenstone were more easily accessible in earlier days and have been mined extensively for many years. The end of these deposits is, in many cases, measurably in sight.

A very large amount of the ore indicated by drilling is not at present available on account of certain complications of ownership. One company alone reports 40,000,000 tons in sight, of which only 23,000,000 tons are available. A very large additional tonnage was not reported at all. I do not believe that even half of the probable future tonnage of this district is even indicated by drilling. Nothing is known as to the prob-

e downward extent of the ore. One is not indulging in optimism to ect this group of mines to produce 100,000,000 tons.

However, in most cases the amount of ore reported or indicated is ugh to continue the life of the present mine for a sufficient period to er approximately the whole present value of the district. As re- rked above, a continuation of life beyond twenty years adds to the sent value very slowly, and wherever the ore supply is sufficient to intain output for even fifteen years, it is not worth while to be ical about the amount of additions that might be made.

LILLIE, CAMBRIA AND HARTFORD.

These properties are controlled at present by the Republic Iron & el Company. They report a total of approximately 900,000 tons of which is considered by Dr. Leith a sufficient amount. Probable ex- sions of the ore bodies of these mines occur on the neighboring Jack- n mine.

JACKSON MINE.

The Jackson mine is owned by the Cleveland Cliffs Iron Company. is property is a section of land (640 acres) which has formerly pro- ced large tonnages of hard ore in upper horizons. Soft ores will cer- inly be found on it to a certain extent, probably a very large extent, t the only place where ore is actually indicated is in some drill holes the northwest corner of the property showing a continuation of the llie and Cambria ore bodies on the Jackson. The Lillie, Cambria and rtford account for a total of 6,800,000 tons.

MARY CHARLOTTE MINE.

This ore body extends across the line of the adjacent Rolling Mill operty and will produce 2,775,000 tons, sufficient to maintain a ship- ent of 200,000 tons a year for fourteen years.

BREITUNG-HEMATITE.

This property, making all allowance for some disputed ownerships can credited with 2,000,000 tons of ore, sufficient to maintain a ship- ent of 100,000 tons a year for twenty years.

LAKE ANGELINE & MITCHELL.

The end of both these properties is in sight and tonnage credited to em is only 475,000 tons.

ROLLING MILL.

This property is good for 1,500,000 tons and a life of fifteen years.

LAKE MINE.

This property is bottomed and can only produce 3,700,000 tons more, hich will probably be mined in ten years.

NEGAUNEE.

This property reports 13,635,000 tons available. This is sufficien maintain a probable output of 500,000 tons a year for twenty-s years.

SALISBURY.

This property is bottomed and contains 584,000 tons in sight. life is probably about seven years.

MAAS.

This property reports an available tonnage of 9,662,000 tons. Th sufficient to maintain an output of 400,000 tons a year for twenty-f years.

LAKE SUPERIOR SOFT ORE MINES.

It is difficult to distinguish tonnages reported for these proper from tonnages belonging to hard ore mines. In this connection o one property is listed, namely, Section 21. It is credited with 4,000 tons, sufficient to maintain an output of 200,000 tons annually for two years.

QUEEN.

This property reports about 1,900,000 tons which will probably about ten years.

RACE COURSE.

This is a small tract owned by the Oliver Iron Mining Company. T estimate 1,500,000 tons on it, but at present it is not developed and w not be available for many years.

LUCKY STAR.

This property contains a continuation of the Queen ore body cross its entire length of 1,500 feet. Four drill holes along the line of the show an average of 155 feet of ore between depths of 900 and 1,300 f Allowing a width of 300 feet for this ore body and an average thickn of 110 feet only, gives us more than 4,000,000 tons which is a very c servative estimate. This ore, however, is not developed for mining a will not be for a number of years.

HARVEY LOTS.

The continuation of the Lucky Star ore body is on the Harvey Lo Drilling indicates 4,000,000 tons, but it is not developed and is not ava able on account of uncertainty of location of the ore body with re ence to the boundaries. On account of these uncertainties, I value on a very conservative basis.

VALUATIONS IN DISTRICT NO. 7.

These mines are considerably better developed and more establish in the market than the Iron River district, consequently the values a higher. The tonnage put down as expected is somewhat greater.

rge group of undeveloped properties are valued at 20 cents per ton in e ground at present. This is based on deducting expected cost of quipment of these properties for production and also deferring profits om them for a period of ten years.

The total value of the properties is $27,825,000, based on a yearly roduct of 2,263,000 tons and an expected tonnage of 53,145,651 tons.

DISTRICT NO. 8. SWANZY, MARQUETTE COUNTY.

Dr. Leith describes this as an isolated canoe shaped basin of upper ronian rocks, surrounded by granites south of the Marquette district. e axis of the basin is northwest southeast with minor cross folding. e dips are gentle except where cross-folded. The granite basement irregular. The ore bodies are principally in the northeast side of e basin and at the ends. One ore body, the Stephenson, is known on e southwest side of the basin. The ores are in tabular deposits with ntle dip. They have been thoroughly explored by drilling in advance mining operations and the total tonnage of the basin is reasonably ll approximated. The total shipments from this field have been 30,232 tons. The total available reserve indicated by mining and illing operations is 6,851,475 tons.

All the mines of this district are controlled by the Cleveland Cliffs mpany except the Stegmiller, a nearly exhausted property, controlled the Oliver Iron Mining Company. The Cleveland Cliffs Company re-rts for its active mines the following tonnages of available ore:

Stephenson	780,646 tons.
Austin	503,774 tons.
Princeton No. 1	97,064 tons.
Princeton No. 2	1,060,253 tons.
Total	2,441,737 tons.

In addition it reports: Ores discovered by drilling only but not other-se developed and to some extent of doubtful availability a total of 38,738 tons. I consider all of these estimates sufficient.

STEGMILLER.

This property reports 246,000 tons in sight. Dr. Leith adds 20,000 ns for probable ore making a total of 266,000 tons.

VALUATIONS OF DISTRICT NO. 8.

These mines are rather low grade and are high in moisture. Many of e ore bodies discovered by drilling are of doubtful availability on ac-unt of underlying enormous masses of quicksand. While the Cleveland liffs Company is going ahead with the development and equipment of ese mines, the conditions are such that they must be valued on a con-rvative basis.

The total valuations are $2,530,000 based on an expected yearly pro-ct of 456,000 tons, and a total expected output of 6,746,158 tons.

TABULATION NO. 9.

This covers various mines in different ranges which ship ore of ma lower grade in iron contents than the ordinary merchantable ores of t Lake Superior region. Dr. Leith has the following to say in regard t them.

"The ores are but little higher in iron than the average of the adjace iron formation. They are partly open cut and milling propositions a partly underground mines. Their mining at any particular locality d pends upon favorable conditions, low phosphorus content or possessi of a restricted market, or in the case of the Pewabic and other mines, need of handling ore of this grade along with higher grades which a being hoisted. So far as we know, any of the mines which have produc this grade can produce it far in the future and estimates of tonna would be of little consequence. For instance, in the Palmer area a estimate of tonnage of such ore would be enormous, but the limits are u indefinite that an estimate of tonnage is difficult."

"It should not be assumed that there are unlimited quantities of th ores. It is true that there is an enormous quantity with this percenta of metallic iron, but areas are comparatively limited where the pho phorus is exceptionally low and where the conditions allow of che mining. Therefore, these ore bodies have a distinct value because of thi limitation."

However, the salient fact in connection with these ores is that the market is at present limited and, therefore, the value of the mines is on the whole more a question of certain commercial advantages than o simply an ore discovery.

VALUATIONS OF TABULATION NO. 9.

These mines are valued simply at the amount of their earnings durin the past five years. No estimate is made for the probable tonnage tha they can depend on. Total valuation is $373,000.

THE VALUE OF UNDEVELOPED IRON LANDS.

It was hoped up to the completion of our investigation that some means would be found of placing a value on unexplored iron ore forma tion. The final result, however, is a disappointment. Such lands are un doubtedly valuable, but we have not succeeded in finding any logic measure of their value.

The reason for this is that we have no means of knowing, without very long investigation, what proportion of iron lands are really un explored. If we could compare an area of fresh iron lands with anothe area that had been explored and had been proved to contain a certai tonnage of iron ore, we might then rationally assume that the unde veloped land would reduce somewhat in the same proportion, but it ha been impossible to make any such comparison.

It must be borne in mind that the iron mines, as well as the coppe mines, would lose value every year unless new ore is found to take th place of what is removed. It seems to me that it is a logical position t take in regard to undeveloped mineral lands, that whatever values the may be proved to contain will be appraised as soon as a mine is deve

ged; in other words, the State loses nothing in the long run by not aring such lands for their mineral value.

SUMMARY of costs, receipts, shipments and other data for the Nine on districts for five year period.

DISTRICT NO. 1.

Gogebic County, Michigan.

		Totals.	Per ton.
ber of mines and explorations reported		20	
gs and salaries paid		$16,632,296 40	
ral expenses (not including taxes)		$1,558,705 93	.098
truction, dev...ment and explorations		4,083,864 20	.260
ng expense		21,207,105 10	1.353
Total cost at mine		$26,849,675 23	1.72
l freights paid		6,002,288 37	.40
e freights paid		10,585,921 64	.71
issions paid		695,520 57	.046
Total expense		$44,133,405 81	*2.876 F. O. B. Cleveland
l tons sold	15,183,842		
l tons shipped	15,393,642		
l tons mined	15,711,053		
ipts from sale of ore		$65,694,536 07	
l operating profit of 12 mines		21,944,683 57	
		992,272 42	
portion taxes to operating profits (per cent)		4.55	
alties		5,960,403 65	
t to companies (12 mines)		15,212,854 39	
l profits 12 mines including royalties		20,957,419 53	
l loss to three mines (exploration and development properties not luded		678,579 85	
l tonnage reported in sight		17,354,100	
added by appraiser		25,645,900	
l tonnage expected		43,000,000	
age yearly value (expected) per ton		$4 22	
age cost per ton expected F. O. B. Cleveland		†2 87	
age profit per ton expected		1 35	
l tonnage expected		2,875,000	
nt value of mines		$41,560,000 00	

*The average cost per ton includes mines worked at a loss.
†The expected cost per ton is only for mines expected to work at a profit.

DISTRICT NO. 2.
Iron County, Michigan.

		Totals.	Per ton.
Number of mines and explorations reporting		29	
Wages and salaries paid		$4,411,151 48	
General expenses (not including taxes)		$352,688 31	
Construction, development and explorations		3,574,038 89	
Mining		5,211,894 90	1.3
Total cost at mine		$9,138,622 10	2.2
Rail freights paid		1,279,487 98	.3
Lake freights paid		1,609,055 90	.4
Commissions paid		260,351 01	.0
Total expense		$12,287,516 99	* $3.2 F. O. B. Cleveland
Total tons sold	3,848,325		
Total tons shipped	3,820,308		
Total tons mined	3,999,457		
Receipts from sale of ore		$12,740,286 82	
Total operating profit of 9 mines		2,044,106 72	
Taxes		103,907 11	
Proportion of taxes to operating profit (per cent)		5.5	
Royalties paid		844,038 89	
Profits to companies (7 mines)		1,395,354 01	
Total profits 9 mines (including royalties)		1,952,543 49	
Total loss to companies (10 mines)		1,912,320 91	
Total tonnage reported in sight		10,169,213	
Tonnage added by appraiser		31,952,787	
Total tonnage expected		42,122,000	
Average yearly value (expected) per ton		$3 23	
Average cost per ton expected, F. O. B. Cleveland		2 65	
Average profit per ton expected		58	
Annual tonnage expected		1,200,000	
Present value of mines		$17,042,000 00	

*Includes unprofitable mines.

DISTRICT NO. 3.

		Totals.	Per ton.
Number of mines and explorations reporting		25	
Wages and salaries paid		$4,756,223 68	
General expenses (taxes not included)		$437,288 47	.0
Construction, development and explorations		1,789,786 65	.2
Mining		6,565,400 84	.9
Total cost at mine		$8,792,475 96	$1.2
Rail freights paid		2,374,293 64	.3
Lake freights paid		3,267,453 98	.5
Commissions paid		548,504 29	.0
Total expense		$14,982,727 87	$2.1 Includes unprofitable mines.
Total tons sold	6,050,662		
Total tons shipped	6,119,177		
Total tons mined	6,777,255		
Receipts from sale of ore		$20,861,190 27	
Total operating profit (10 mines)		6,361,951 98	
Taxes		131,493 43	
Proportion of taxes to operating profits (per cent)		2.6	
Royalties paid		1,611,190 15	
Profits to companies (8 mines)		4,846,463 22	
Total profits (10 mines) including royalties		6,238,753 13	
Total loss to companies (6 mines) not including explorations		710,684 40	
Total tonnage reported in sight		1,233,900	
Tonnage added by appraiser		6,820,100	
Total tonnage expected		8,054,000	
Average yearly value (expected) per ton		3.52	
Average costs expected per ton F. O. B. Cleveland		2.36	
Average profit per ton expected		1.16	
Annual tonnage expected		880,000	
Present value of mines		$6,297,000 00	

DISTRICT NO. 4.

		Totals.	Per ton.
mber of mines and explorations reporting		12	
ages and salaries paid		$9,322,449 20	
neral expense (not including taxes)		$971,447 21	.097
nstruction, development and explorations		1,915,320 33	.192
ning		11,289,470 33	1.128
Total cost at mine		$14,176,237 87	1.417
il freights paid		3,483,420 04	.40
ke freights paid		5,369,237 62	.60
mmissions paid		66,661 27	.07
Total expense		$23,095,556 80	2.48 F. O. B. Cleveland.
ns sold	9,391,360		
ns shipped	9,335,812		
ns mined	10,052,564		
ceipts from sale of ore		$34,103,131 46	
tal operating profit of ten mines		11,040,230 75	
xes		795,696 22	
oportion of taxes to operating profit (per cent)		7.24	
yalties paid		2,395,619 41	
ofit to companies 9 mines		7,885,624 86	
tal profit—mines (including royalties)		10,249,066 96	
tal loss to companies, two		69,365 83	
tal tonnage reported in sight		9,177,348	
ns added by appraiser		9,055,652	
tal tons expected		18,233,000	
erage yearly value (expected) per ton		$3.46	
erage cost per ton expected F. O. B. Cleveland		2.64	
erage profit per ton expected		.82	
nual tonnage expected		1,540,000	
esent value of mines		$11,391,000 00	

DISTRICT NO. 5.

Baraga County, Michigan.

		Totals.	Per ton.
mber of mines and explorations reporting		3	
ages and salaries paid		$565,969 48	
neral expenses (not including taxes)		$48,919 32	.065
nstruction, development and explorations		159,844 44	.214
ning		951,722 56	1.28
Total cost at mine		$1,160,486 32	1.56
il freights paid		228,479 12	.35
ke freights paid		398,492 21	.61
mmissions paid		40,147 35	.06
Total expense		$1,827,605 00	2.58
ns sold	657,370		
ns shipped	657,370		
ns mined	744,603		
ceipts from sale of ore		$1,807,495 98	
tal operating profits, three mines		45,377 44	
xes		7,331 05	
oportion of taxes to operating profit (per cent)		16.2	
yalties paid		136,601 62	
ofits to companies—mines		None	
tal profits three mines (including royalties)		38,046 39	
tal loss to companies, three mines		98,555 23	
ns reported in sight		1,864,185	
ns added by appraiser		199,815	
tal tonnage expected		2,064,000	
erage yearly value (expected) per ton		$2.98	
erage cost per ton expected, F. O. B. Cleveland		2.61	
erage profit per ton expected		.37	
nual tonnage expected		75,000	
esent value of mines		$335,000 00	

DISTRICT NO. 6.
Marquette County, Michigan.

		Total.	Per ton
Number of mines and explorations reporting		11	
Wages and salaries paid		$5,296,704 30	
General expenses (taxes not included)		$582,605 38	
Construction, development and explorations		1,173,335 39	
Mining		6,801,080 83	
Total cost at mine		$8,557,021 60	
Rail freight paid		1,230,335 82	
Lake freight paid		2,359,387 30	
Commissions paid		59,900 93	
Total expense		$12,206,645 65	
Tons sold	3,873,785		
Tons shipped	3,888,557		
Tons mined	4,078,863		
Receipts from sale of ore		$17,015,407 56	
Total operating profit, 6 mines		5,246,934 10	
Taxes		495,505 01	
Proportion of taxes to operating profit (per cent)		9.45	
Royalties paid		262,329 14	
Profit to companies, 6 mines		4,723,752 76	
Total profits, 6 mines (including royalties)		4,866,081 90	
Total loss to companies, 2 mines		572,825 00	
Tons reported in sight		11,134,355	
Tons added by appraiser		10,532,645	
Total tonnage expected		21,667,000	
Average yearly value per ton expected		$4 30	
Average yearly cost per ton expected		3 32	
Average profits per ton expected		.98	
Annual tonnage expected		1,224,000	
Present value of mines		$12,132,000 00	

DISTRICT NO. 7.
Marquette County, Michigan.

		Totals.	Pr.
Number of mines and explorations reporting		20	
Wages and salaries paid		$12,011,515 90	
General expenses (not including taxes)		$1,395,899 35	
Construction, development and explorations		2,140,866 05	
Mining		15,107,981 23	
Total cost at mine		$18,644,746 63	
Rail freight paid		3,064,947 71	
Lake freight paid		5,424,983 28	
Commissions paid		134,029 88	
Total expense		$27,268,707 50	
Tons sold	10,744,791		
Tons shipped	10,830,611		
Tons mined	11,354,811		
Receipts from sale of ore		$39,605,117 47	
Total operating profits, 15 mines		12,467,025 65	
Taxes		865,028 59	
Proportion taxes to operating profit, per cent		6.98	
Royalties paid		1,859,944 05	
Profit to companies, 13 mines		9,867,181 86	
Total profits, 14 mines (including royalties)		11,654,992 00	
Total loss to companies, 4 mines		255,584 53	
Tons reported in sight		35,961,538	
Tons added by appraiser		17,184,113	
Total tonnage expected		53,145,651	
Average yearly value per ton (expected)		$3.77	
Average yearly cost per ton (expected)		2.69	
Average profit per ton (expected)		1.08	
Annual tonnage expected		2,363,000	
Present value of mines		$27,825,000 00	

DISTRICT NO. 8.

Marquette County, Michigan.

		Totals.	Per ton.
Number of mines and explorations reporting		13	
Wages and salaries paid		$2,158,212 35	
General expense (not including taxes)		$172,674 60	.082
Construction, development and explorations		307,771 22	.148
Mining		3,312,786 07	1.580
Total cost at mine		$3,793,231 89	1.81
Rail freights paid		311,706 73	.32
Lake freights paid		418,475 85	.65
Commissions paid			
Total expense		$4,523,414 47	2.78
Tons sold	1,669,737		
Tons shipped	1,670,263		
Tons mined	2,095,723		
Receipts from sale of ore		$5,682,757 47	
Total operating profit, 6 mines		1,267,967 36	
Taxes		99,687 11	
Proportion of taxes to operating profit (per cent)		7.9	
Royalties paid		540,348 62	
Profit to companies, 1 mine		1,047,803 59	
Total profit, 2 mines (including royalties)		1,219,975 79	
Total loss to companies, 3 mines		528,496 32	
Total tonnage expected		6,746,158	
Average yearly value per ton expected		$3.60	
Average cost per ton expected		2.94	
Average profit per ton expected		.66	
Annual tonnage expected		456,000	
Present value of mines		$2,530,000 00	

DISTRICT NO. 9.

Various scattered low grade mines.

		Totals.	Per ton.
Number of mines and explorations reporting		11	
Wages and salaries paid		$620,145 06	
General expenses (taxes not included)		$59,960 53	.045
Construction, development and explorations		279,101 91	.22
Mining		845,056 92	.66
Total cost at mine		$1,184,119 36	.92
Rail freights paid		454,062 59	.40
Lake freights paid		502,930 70	.60
Commissions paid		72,834 61	.10
Total expense		$2,213,947 26	2.02
Tons sold	1,171,024		
Tons shipped	1,179,719		
Tons mined	1,293,658		
Receipts from sale of ore		$2,261,830 18	
Total operating profit, 4 mines		386,208 35	
Taxes		21,327 20	
Proportion taxes to operating profit (per cent)		5.45	
Royalties paid		154,427 35	
Profit to companies, 4 mines		278,364 85	
Total profit (including royalties)		374,323 47	
Total loss to companies, 5 mines		406,236 48	
Tons reported in sight		1,323,074	
Tons added by appraiser		None	
Total tonnage expected		1,323,074	
Average yearly value per ton expected		Valued only on past record.	
Average cost per ton expected			
Average profit per ton expected			
Present value of mines		$373,006 00	
Annual tonnage expected			

THE VALUE OF COAL PROPERTY AND COAL RIGHTS IN TH STATE OF MICHIGAN.

BY H. M. CHANCE.

Bay City, Mich., August 1, 1911.

To Mr. J. R. Finlay, Appraiser of Mines, Board of State Tax Commi sioners, Houghton, Mich.:

Dear Sir—The data herewith submitted have been collected and pre pared in accordance with my understanding that in each case you desi to reach such valuation as would represent, as nearly as possible, th price an investor would be justified in paying, if a purchase of the pro erty were in contemplation. The location of proven areas of workab coal is shown by the accompanying map, which was prepared by Mr. H F. Lunt to illustrate this report. This map was constructed from dat taken directly from the mine and property maps of the operating com panies. All of the figures used in this report giving the areas or acreage of proven coal territory have also been taken from the mine and prop erty maps and other records of the operating companies or owners o proven territory, and the average thicknesses of the coals as adopted an used in computing tonnage yield, are likewise taken from the record of borings as entered by owners and operators upon their property an mine maps.

In attempting to outline a method by which such valuation may be de termined, giving due weight to the modifying force of those facts whic govern and fix values, it becomes necessary to review with care and i some detail the physical conditions present in this coal field, to inquir into the commercial and competitive relations it bears to other coa fields and to investigate the economic, as well as the physical conditio which affect the cost of mining.

At an early stage of this inquiry it became evident that any Michiga property containing a coal-bed which in thickness, and in the quality o the coal, and in conditions under which it was mined, is fairly compara ble to the average thickness, quality and mining conditions of Ohio o West Virginia coal-beds, must by reason of its location be valuable. Fo example, if Michigan coal could be sold at competitive Michigan point at a price equal to the cost of mining and delivering Ohio coal, and coul be mined at the cost of mining Ohio coal, the profit to the Michiga operator delivering coal in the territory north of an east and west li drawn through Lansing, would range from 60 cents to $1.60 per to or in other words, to the difference in the cost of transportation. Pro pective profits so much larger than those usually earned by coal-minin enterprises would however, doubtless quickly bring about the opening o many mines, with such increase in production and competition as to de stroy the possibility of such profitable operation.

While no coal has yet been found or developed in Michigan which

ius comparable in thickness, quality, mining conditions, etc., to average hio coal, and while the Michigan coals intrinsically are not worth as uch per ton as average Ohio coal and are more expensive to mine than hio coals, in many cases there yet remains a satisfactory margin of posible profit between the cost of mining in this field and the delivered cost f other competitive coals. Unfortunately, however, the Michigan output as been in excess of the local demand for coal of this grade, and competition among Michigan operators has often reduced the average selling rices to less than the cost of mining.

Similar commercial and economic conditions are not uncommon in ndiana, Illionis, Western Kentucky, Ohio and other mining districts, ut such trade conditions do not exist for any considerable period in ny district. Unprofitable prices inevitably cause the temporary or perianent closing of a considerable number of mines, thus reducing the utput until increasing consumption establishes equilibrium between proaction and demand, and prices are thus naturally adjusted to averages which the business can be conducted at a fair profit upon the invested apital. Such has been the past history of coal mining in nearly every al mining district in the United States and we have every reason to nticipate like conditions in this coal-field.

Within the last five years the output of the Michigan mines increased ore rapidly than the local demand, and competition among producers esulted in small and unsatisfactory profits to some, and disastrous oses to others, but these facts do not in themselves justify the conclusion that Michigan coal lands are less valuable than coal lands in other istricts. Recently the situation has been changed by the temporary losing of some mines, by the exhaustion of some and by the permanent losing of others.

From my study of the situation it seems patent that the trade is rapy approaching a period in which the Michigan mines consistently n earn profits commensurate with those earned in other districts. If is be true, then coal of workable thickness and marketable quality ould be as valuable acre for acre, or ton for ton, in Michigan as in any her district.

VALUE OF PLANT AND IMPROVEMENTS.

In conducting this investigation it has been found that in many cases e life of any property, that is the term during which it can be exted to continue in operation, is involved in more or less uncertainty, epending upon the accuracy and thoroughness with which the property s or has not been drilled. The value of the mining plant and improvements, (the hoisting engine, fans, boilers, tipple, tracks, shafts, entries, c.,) depends not upon their first cost, present condition or value as econd-hand material or junk, but upon the tonnage of coal which the lant will raise to the surface. After it has performed this work, its alue at second-hand material or junk prices is relatively small. Hence logical method of reaching the value of such mining property is to dermine the value of the developed and proven coal tonnage, for this epresents the whole profit, and therefore very nearly the whole value of e property, including the present value or first cost of the plant and mprovements; for when this coal is mined the property is exhausted

and the plant and improvements may be worth a small fractional pa of their first cost.

I have therefore aimed to so present the facts as to make it possib to reach values based upon the proven tonnage of each property by system applicable to all parts of the coal-field.

METHOD OF FIXING VALUES.

In using this system it becomes necessary to assume as a basis, a valu which shall represent the present money value of a ton of coal existi under average mining conditions and which is to be mined in the immed ate future, that is to say in the present year. If such value be fixed at 1 cents per ton, this is equivalent to a value of $300 per acre for a bed c coal 3 feet thick, and which will produce 3,000 tons per acre.

Having fixed upon some such unit value per ton as a base, it become necessary to determine what additions or deductions must be made t represent differences due to thicker or more cheaply mined coal, or t thinner coal or coal more expensive to mine, and to represent the di ference in value between areas actually being worked and those which a not yet actually developed by shafts, as well as those modificatio which must be made for properties the development of which may be d ferred, or which will not be exhausted for many years.

The mere fact of developing a bed of coal, that is, the actual openi of a coal-bed by shafts and the commencement of mining operations, i usually thought to double the coal value, and in other mining district the opening and working of coal, as a matter of fact, usually does doubl the prices at which such lands can be sold. If we adopt this as a mea ure of relative values, the value of undeveloped coal will be taken at on half of the value of the same coal in developed territory and if the bas value of developed coal be assumed at 10 cents per ton then the value o undeveloped coal will be 5 cents per ton. In this coalfield experienc has amply shown that owing to unforseen irregularities in the coal an to insufficient or unreliable drilling, only about one-half of the antici pated output usually is obtained from any area, so that in this Michiga coalfield it becomes necessary to make a further deduction, by cuttin the above value in half, thus bringing the value of undeveloped territor down to about one-quarter of the base value, or upon the above assump tion, to 2½ cents per ton.

To determine the present money value, these base values must be di counted for the term of years elapsing before mining is begun and fo the term necessary to exhaust the property.

Assuming that existing and projected operations will be able to supp the market requirements for the next ten years and that the average li of collieries hereafter opened will be ten years, the present money valu of a ton of coal in undeveloped territory (2½ cents discounted at 5 pe cent interest for a term of 10 years, and distributed through a furthe term of 10 years) may be taken at about 1¼ cents per ton; equivalen for a coal-bed 3 feet thick and estimated to yield 3,000 tons per acr to a value of $37.50 per acre.

In cases in which undeveloped lands are opened and worked in shorter period than ten years, the discount period is correspondentl shorter and the present value upon this basis may be 1½, 1¾ or 2 cen

er ton, and the base will also be increased where the thickness of the coal, its quality or the mining conditions justify such increase.

AREA OF COALFIELD.

What is known as the Michigan coalfield has been shown by the maps nd report of the Geological Survey to include an area of 15,000 square iles, including all of 13 counties and portions of 14 counties. That is, he formations which contain coal underlie in whole or in part, the surace of these 27 counties. The presence of coal has been demonstrated these formations at hundreds (or thousands) of places by bore holes rilled for water or for salt and by wells dug for water, and in some calities by many holes drilled for the purpose of learning the thickness nd quality of the coal. The information obtained in this way at many calities appeared to justify the sinking of shafts and the mining of al and mines have thus been opened and worked in nine counties. me of these enterprises were unsuccessful from the outset and many hers were abandoned either because the coal was too thin, the mining nditions unfavorable or because the workable coal was exhausted.

LOCATION OF MINES.

At present mining is being conducted in seven (7) counties, as follows:

Bay county	10 mines
Saginaw county, (including shafts completed)	17 mines
Tuscola county	1 mine
Genesee county	1 mine
Shiawassee county	2 mines
Ingham county	1 mine
Eaton county	2 mines
Total	34 mines

PECULIARITIES OF THE MICHIGAN COALFIELD.

In most of the coalfields of the United States the workable beds of al are regular and persistent in thickness and quality over large reas. When this condition is known in any district coal lands become aluable for their coal contents, and the mining, mineral or coal rights come marketable not only to coal operators and those engaged in the al business, but also to investors who do not expect an immediate reurn on their investment. In such districts and under such conditions e present money value of the coal, distinct and apart from the value of e land, may readily be determined by the price at which it can be sold. In the Michigan coalfield, so far as is now known, the workable coal confined to irregular areas of small size and these areas in the aggrete comprise a relatively small portion of the whole coalfield.

WORKABLE THICKNESS.

Under present mining and economic conditions in Michigan there is no ssibility of profitably working coal-beds, the average thickness of hich is less than 2 feet and 6 inches. Any coal bed of less thickness un-

hesitatingly can be classed as not workable. The time will doubtless come when coal of such thickness will be workable, but this contingency is remote and uncertain and is insufficient to add any measurable present value to lands containing such coal.

The same statement is broadly true of lands containing coal less than 3 feet thick, for except in rare instances, this is the present economic limit and is based upon the experience of those who have mined coal in this field, that coal less than 3 feet thick cannot at present be considered workable. In connection with mines working coal-beds more than 3 feet thick, it often may be possible to extend the mine workings into marginal areas (contigious to the thicker coal) in which the thickness may shrink to less than 3 feet, and when the roof is good and the coal of good quality, and other conditions are favorable to cheap mining, such workings may extend to and include such marginal areas in which the coal shrinks to 2 feet and 6 inches.

We may therefore summarize the conditions which at present are necessary to constitute a workable tract of coal land.

1. The coal-bed must have an average thickness of not less than 3 feet.
2. Marginal areas showing a thickness of less than 2 feet 6 inches must be excluded.
3. These thicknesses must be of coal, and not of coal and slate partings combined.
4. The quality must be fairly comparable to that produced by other mines of the district.
5. The coal must have a fairly good roof and sufficient rock cover.
6. Other mining conditions must be fairly comparable to those of other mines in the district, so that coal can be mined at a cost not greatly exceeding the cost per ton of other mines in the same district.

YIELD PER ACRE.

Owing to poor roof, irregular thickness, risks involved in robbing out pillars and the irregular shapes or conformation of the workable areas, the yield per acre, per foot in thickness, is relatively small. From 1,200 to 1,350 tons per acre per foot in thickness are average yields obtained in other mining districts, but in this coalfield a yield of about 1,000 tons per acre for each foot in thickness will probably represent average results, and this figure has been adopted and used in making all computations of tonnage as given in this report.

VALUE OF UNPROVEN TERRITORY.

As the coal-beds lie deeply buried beneath the surface, thorough prospecting by drilling is necessary to prove the existence of workable coal in any locality and to define the size and shape of the workable area. We cannot learn that lands within the limits of this coalfield, which have not been explored for coal by drilling, are considered more valuable by reason of the possibility that workable coal may underlie the surface, nor can we learn that the mineral rights, or rights to mine coal from such lands is marketable at any price. The possible existence of workable coal in undrilled territory is regarded as so vague and uncertain that

investors have not in the past, and are not now, willing to purchase the mining right or mineral right to such lands.

In view of these facts and conditions it seems reasonable to conclude that neither the coal mining rights nor the coal existing in unproven territory in the Michigan coalfield has at present any definable money value; that is, they have no present value.

VALUE OF PROVEN TERRITORY.

The finding in a single drill hole of a bed of coal of workable thickness does not prove the existence of a workable area, but merely indicates the possible existence of such an area, and to prove such area a sufficient number of holes must be drilled to show that such thickness exists over an area large enough to justify an expenditure necessary for its development.

FACTORS AFFECTING VALUES.

The quality of the coal has an important bearing upon its value, and the quality and prices of those coals from other districts with which it is in competition are equally important factors in determining values. The thickness and mining conditions of any coal-bed and the cost of mining labor in the district, fix the cost of mining. Profitable operation is possible only when the coal is sold at a fair margin above the cost of production, and this selling price in turn depends upon the quality of the coal as compared with the quality of the coal from other competitive districts and upon the prices at which such competitive coals are sold. While it may be beyond the province of this report to go into all these matters in detail, and while it is impossible in the time available for this purpose to collect complete data covering every phase of the matter, it is nevertheless necessary to recognize the important bearing of these features of the business as affecting the probable average profit per ton, for all values ultimately must be based upon the average profits of the business.

Without attempting to go into a discussion of minor details it will be sufficient to summarize these conditions as follows:

The thickness of coal now being worked in the Michigan mines is less than that of competitive coals of the Ohio and West Virginia coalfields and the mining conditions present in this state are unfavorable to cheap mining as compared with those of the Ohio and West Virginia coalfields. The principal adverse physical conditions are:

1. All coal must be mined through shaft.
2. Quantity of water to be pumped is relatively large.
3. Irregularity in the thickness of the coal.
4. Smaller average size of the coal-beds.
5. Small size of the workable areas.
6. Troublesome roof, requiring expensive timbering.
7. Small demand for coal during the summer months.

LABOR COST AND MINING SCALE.

The mining scale in Michigan is higher than in the competitive Ohio and West Virginia districts, the wage scale generally is higher and the

extra allowances received by the Michigan miners for narrow work, rock etc., are usually computed by more liberal methods than is customary in other coalfields. These conditions naturally tend to increase the cost per ton.

The cost of dead-work under this scale and for a 3 foot bed of coal normally should not exceed 25 or 28 cents per ton, but in practice it is seldom less than 30 cents and often reaches 40 cents or more. The cost of materials and supplies is generally excessive, and instead of a charge of 8 to 15 cents for these items, this cost usually ranges around 30 cents per ton. Miscellaneous labor inside and outside show costs of about 25 to 30 cents, and this is increased by the smaller output during summer; overhead charges of 10 to 15 cents added to the mine scale ($1.01 per ton for screened coal) price on run-of-mine basis explains why the cost is about $1.60 per ton.

QUALITY OF MICHIGAN COAL AND COMPETITIVE FUELS.

In quality the Michigan coal is distinctly inferior to the Ohio and West Virginia coals which are shipped into Michigan. These foreign coals usually contain less moisture, less sulphur and less ash and are therefore of correspondingly higher value, and this difference is soon discovered when the price is based upon the thermal value as measured by the number of British Thermal Units (B. T. U.) generated in actual combustion tests. It must not, however, be understood that the Michigan coals are not fairly good steam fuels or that they are not satisfactory fuels for domestic use. The difference in quality represents a difference in value averaging from 20 to 40 cents per ton,—that is, some of the Michigan coals are worth from 20 to 40 cents less per ton than average Ohio and West Virginia coals.

COST OF MINING.

The disadvantages under which these Michigan coal mines are operated increase the cost of mining as compared with the average cost in Ohio by about 60 to 80 cents per ton, and by about 75 to 90 cents per ton as compared with the average cost in West Virginia. A large part of this increased cost is due to the losses in maintaining the mines throughout the summer, when nearly all of them are worked at a loss, or are maintained in working condition at a cost that must be charged up to the cost of mining when mining is resumed in the autumn.

ADVANTAGES OF THE MICHIGAN COAL.

The operator in the Michigan coalfield has for a natural market all that portion of the lower peninsular of Michigan lying north of Lansing and Grand Rapids and especially that section immediately surrounding Saginaw and Bay City, and lying north, west and northwest of those two cities.

In the above described region the Michigan coal has a natural protection, which the freight rates on the Ohio and West Virginia coal interpose, amounting to from $1.40 to $1.60 and more per ton from the Ohio districts and about 25 cents per ton additional on coal from the West Virginia districts. Hence it is apparent that the Michigan coal


MAP
TOO
LARGE
FOR
FILMING

mines should control the market and furnish the greater portion of both steam and domestic fuels consumed in this district, and that this business should be conducted at a fair margin of profit.

This conclusion may appear to be at variance with the facts, for the past history of this coalfield presents many instances of unsuccessful operations and of the failure of a considerable number of attempts to mine coal in different parts of the field. In all of these cases I believe, however, that the cause of failure can be traced to inadequate drilling to determine the thickness, quality and extent of workable coal, to inexperience in the business, to increasing the output until the production was in excess of the local market demand, to attempting to market coal beyond the natural limits of the district or to destructive competition with other mines of the same district. I believe that by confining the sales of this coal to the markets to which natural conditions tend to restrict it the operators ultimately should succeed in placing the industry upon a stable and satisfactory business basis.

For these reasons I believe that the same principles commonly applied in appraising values elsewhere should be used in determining values in this coalfield, and that the method suggested above as applied to this district will fix values which are rational and which will harmonize with those established in other coal mining districts.

UNIT OF VALUE.

In suggesting ten cents (10 cts.) per ton as a unit of value I have assumed that the industry can and will be so conducted as to produce a net profit (after deducting from the selling price of the coal, all costs incident to carrying on the business, including depreciation, sinking fund, and amortization of investment) sufficient to justify an average minimum value of ten cents per ton. If the industry were more firmly established upon a profitable basis this unit of value would naturally be larger, and a slight improvement in trade conditions only would be necessary to justify an increase in this unit to 18 or 20 cents. The principal additions to or deductions from this basic unit of value have already been discussed, but in some cases other allowances or adjustments may be required to represent variations in value caused by varying thicknesses of the coal and by marked differences in quality or in mining conditions.

LEASE-HOLDS AND ROYALTIES.

Most of the coal territory controlled by present operators is held under leases, the terms of which give to the lessee the exclusive right to mine and remove all of the coal. The royalties paid under these leases have commonly ranged from five (5) to ten (10) cents per ton, but in exceptional cases, and especially at quite small mines, higher royalties have been paid. Many of the leases originally made at or about 10 cents per ton have from time to time been re-adjusted to a lower basis, and the average royalty now paid is probably little more than five cents per ton, and we understand some leases have been made at less than 5 cents per ton. Most of the leases require a certain minimum payment per year, and in the case of certain undeveloped properties this payment is usually based upon the number of acres leased, a common price being

from $1.00 to $2.00 per acre per annum, but this annual payment is in many cases also re-adjusted to a lower basis. By the terms of these leases the money so paid is usually defined as an advance payment of royalty upon coal to be mined after mining operations are commenced.

Within the past six or eight years large areas have at times been leased and held by operators and by others for speculative purposes, but most of the leases so held have been allowed to lapse by non-payment of the annual "advance royalty," and with few exceptions the present policy of individuals and corporations engaged in mining and in prospecting coal land is to retain control only of territory which by drilling has been proven to contain coal of workable thickness and quality.

STABILITY OF VALUES.

With increasing population and still more rapidly increasing demand for fuel, coal land and coal mining rights are steadily growing in value in almost every coalfield in the United States, and it is reasonable to anticipate a like increase in value in the Michigan coalfield. The consumption of coal in the United States has about doubled every ten years for the last sixty years, and coal land values have generally kept pace with this rate of increase. In some localities coal land has increased in value four-fold and six-fold in the past ten years, but these are extreme examples of abnormally rapid increase in market value. I believe that the proven areas of workable coal in this coalfield will surely increase in value proportionately with the increase in population and in the consumption of coal. Conditions that would tend to decrease the value of these lands would be the discovery, in Michigan, of larger areas of better and thicker coal, or radical reductions in freight rates such as would enable the operators of competing districts to deliver coal at a price less than the cost of mining in the district.

VALUE OF PLANT AND EQUIPMENT.

While the value of the plant and improvements at any colliery after the coal is exhausted, if restricted to the value of the machinery and equipment at second-hand or at junk prices, is relatively small and unimportant, yet to reach an appraisal which shall represent such value as a purchaser might be justified in paying for a property, it becomes necessary to add to the coal land appraisal as determined by this unit system, a sum to represent what may be termed a salvage value of the plant. This salvage value is greater to operators who may be able to use the machinery at other mines than to those who having no use for it must dispose of it at the best price that can be obtained at the open market, but such method of reasoning is not justified, because an operator desiring or willing to use second-hand machinery can usually buy it at current second-hand prices, and it therefore seems proper that the salvage value at which the mining plant, that is the movable machinery and equipment, is appraised should be based upon current second-hand prices for machinery of this type.

This salvage value at collieries that are fairly well equipped will range from $3,000 or $4,000, up to perhaps $20,000 or $25,000 depending upon the class and type of machinery and equipment, and upon its length of service and state of repair.

It will be understood that the word "plant" is used to include boiler, machinery, buildings, tipple, and other permanently installed improvements; that the word "equipment" is used to include mine cars, mules, track, electric wiring, electric locomotives, mining machines, compressors, tools, piping, supplies on hand and other movable personal property; and that the word "improvements" is used to include the shafts, air shafts, pumps, bore holes, entries, cross-cuts, railroad road bed construction, reservoirs, and all mine and shaft timbering, but that the term "plant" is often used to include "plant," and "equipment" as above defined.

One of the advantages of establishing a system of appraisal based upon unit values, such as has been above outlined, is that such system lends itself to re-adjustments which may be required at any time by changes in the financial condition of the industry. Under normal or prosperous trade conditions these units might be increased by 100 or even 200 per cent without exaggerating the value of the properties.

PROVEN COAL IN MICHIGAN.

County.	Acres.	Tons.	Appraised value.
Bay	4,607	14,945,746	$484,709
Saginaw	3,297	9,556,583	350,924
Midland	343	1,029,000	12,863
Tuscola	10	35,000	3,500
Shiawassee	260	780,000	9,750
Genesee	936	2,836,333	
Ingham	0		
Eaton	0		
Clinton	0		
Jackson	0		
Total	9,453	29,182,662	$861,745

Average value per acre of appraised land $101.18.

SALT, GYPSUM, CEMENT AND BRICK CLAY.

The conclusion arrived at with reference to these properties is that they are not mines at all, and cannot logically be appraised on a mining basis. This conclusion is based on the fact that none of these materials is inherently valuable in the ground, its value depending entirely upon the labor that is put upon it, or on its commercial situation.

The reasons for this conclusion are dwelt upon to some extent in preceding portions of this report. The immediate cause of our arriving at it was that companies engaged in producing or manufacturing these various materials objected, in many cases, to being classed as mining concerns. The following letter gives the position of some of these companies very clearly:

Manistee, Mich., June 23, 1911.

J. R. Finlay, Appraiser of Mines, Houghton, Mich.:

Dear Sir:—Your favor of the 12th inst., enclosing blanks for statement, is received.

We assume that you call on us for these statements because we are engaged in the manufacture of salt. Permit us to say that we are not mining salt, never have mind it and never can do so. The situation is that we pump to the surface brine for a distance of about two thousand feet and evaporate this brine into salt. That is the only way in which we can manufacture salt.

You should also understand that the evaporation of salt is an adjunct to and incidental to our lumber business. We have a great deal of waste, such as saw dust, small edgings, etc., etc., which we use to make steam for the evaporation of salt. This waste material makes a great deal more steam than can be utilized in running our mills, and the surplus is used for the evaporation of brine. We could not manufacture salt for a single day were it not for the utilization of this refuse. The history of the manufacture of salt at Manistee is that it has been done entirely in connection with the lumber business in the way we have stated, and as soon as a mill has stopped making lumber, the evaporation of salt in connection with the business has ceased. One company here undertook to evaporate the brine by the use of coal, but they found that they could not pay expenses and soon stopped it.

We are organized under the Manufacturing Act, and not under the Mining Act. One of our stockholders induced the Attorney General to start a suit against us a little more than a year ago to stop our making salt, his contention being that it was a mining process and that being organized under the Manufacturing Act, we had no right to make salt under our charter. The state was beaten in the circuit court and appealed to the supreme court, which sustained our contention and held that we could continue to make salt in the way we are making it under

he Manufacturing Company Act. You will find this case reported in Vol. 17 of the Detroit Legal News, page 1218.

We are obliged to make reports to the State Salt Inspector of our alt business, which we do regularly, and these reports are published nnually by the State Salt Inspector.

We may add that we have submitted this matter to our counsel, Wil-on, Wilson & Rice, of Grand Rapids, and they have written us that hey have examined the Act under which you are asking for these state-ents, and that in their opinion, our salt business does not come within he purview of that Act, and we trust that with this explanation of he method of the manufacture of salt by us, you will agree with them. f we can give you any further information, please advise us.

Yours truly,

(Signed) THE BUCKLEY & DOUGLAS LUMBER CO.
By T. J. ELTON, Secretary.

The definiteness with which this position was stated in the above let-r impressed me that it would be necessary to submit the matter to our Board to determine whether it was desirable to force the companies aking such a position to furnish reports to the Appraiser of Mines d in a report to your Board of July 1st, in a letter addressed to Mr. ields, I quoted the letter from Buckley & Douglas Lumber Com-ny and stated that, as far as I could see, they were right. I quote e or two paragraphs from my report of that date:

"I submit these considerations in order that your Board may decide ther an important question about the conduct of my work. Many of e companies of lower Michigan expressed so much surprise at being sed as mining companies that they answered our circulars simply stating that they were not doing any mining. If we are to compel em to turn in satisfactory reports, it will be necessary to go after em energetically. In the case of coal, I think it is plain that we ould do this. In the other cases mentioned, it is far from plain. The line of action I am disposed to recommend is simply to continue hat we are doing, namely, get what information we can about these rious enterprises. Wherever we succeed in getting satisfactory infor-ation about a salt or cement company that is so much to the good. r report so far as can be judged at present will probably be that ch concerns should be appraised on a manufacturing basis. I take it at a report of this kind will cover the requirements of the act."

So far as I know no steps were taken by your Board to indicate any sent from the position outlined at that date, and as time went on became more and more evident that the position was a correct one. I asked Dr. Chance and Professor Cook to report to me their con-sions on the same subject, when they had finished their investigation d I append the reports of both these gentlemen.

The following is a summary report by Mr. C. W. Cook:

"July 31, 1911.

Mr. J. R. Finlay, Appraiser of Mines, Houghton, Michigan:

My Dear Sir:—My investigation of the salt, cement and limesto properties of the State has led to the following conclusion regardi the appraisal of the same.

1. That the presence of salt gives no additional value to lands b cause:
   (a) The supply is practically unlimited (see preliminary r port.)
   (b) The method of obtaining the salt (except in the case of t shaft at Oakwood) that is by the formation of an arti cial brine, does not permit the determination of wheth the salt comes from the company's lands or adjoini lands.
   (c) It is the plant which gives the value to the salt.
   (d) It is only under exceptionally favorable conditions (such the utilization of exhaust steam) that common salt (in counter disti tion to table salt) can be produced at a profit.
2. That no valuation can be placed upon cement materials becau
   (a) There is no basis for appraisal inasmuch as there is market for the lands.
   (b) The possible available reserves are far in excess of any po ble demand.
   (c) Any increased value which the lands may possess must due to the presence of a mill to utilize the materials. shown by the reports on the various plants, practica none of the companies have been able to pay interest investment in equipment in the last three years and, the fore, little if any, value can be placed upon the raw m terials. That these conditions are quite certain to c tinue follows from the fact that the market which Michigan mills can serve is extremely limited, wi their production is far in excess of the demand. In ad tion to which, they must suffer competition with mills adjacent states.
3. That the presence of limestone gives no additional value to la In Alpena county thousands of limestone lands can be purcha at five to fifteen dollars an acre. In Monroe county, as sh in the report on the Shore Line Stone Company, limestone la do not command any advance in price over lands for farm

Respectfully yours,

CHAS. W. COOK.

MARL, LIMESTONE, GYPSUM AND SALT.

BY H. M. CHANCE.

Philadelphia, Pa., August 12, 1911.

Mr. J. R. Finlay, Appraiser of Mines, Board of State Tax Commissioners, Lansing, Michigan:

Dear Sir:—I have examined the material collected by Prof. Chas. E. Cook, relating to the manufacture of Portland Cement in Michigan, and have tabulated the statistics of production, and of the costs and selling prices per barrel during the last three years.

I find that nine companies have made complete returns of their output for the years 1908, 1909 and 1910, as follows:

1908	2,045,393
1909	2,596,375
1910	3,064,889
Total	7,706,657

Of these nine companies, seven companies also made complete returns of the cost per barrel of manufacture and of the selling price per barrel.

	Output, bbls.	Cost.	Receipts.
[illegible]	1,645,134	$1,469,307	$1,517,608
[illegible]	1,889,197	1,485,734	1,520,081
[illegible]	2,006,266	1,705,924	1,876,035
Total	5,540,597	$4,661,025	$4,913,724
Average of three years, per bbl.		84.1	88.7

The returns showing the capital invested in plant and improvements are quite incomplete, only six companies making any returns for any of these items and the same is true also of statements covering the amount invested by these several companies in the purchase of lands containing marl, limestone, shale and clay.

Some of these companies at the time of incorporation purchased lands and lakes, containing deposits of marl, at very high prices, and some of these companies have exhausted the marl from a considerable portion of the property so purchased, and have written off a large portion of the original cost as depreciation in value of the lands due to the removal or exhaustion of the deposits.

I do not think we can predicate values for any of these properties based upon the prices which such companies may have originally paid for the

lands, even when a large portion of such original purchase price has be written off as depreciation, for the reason that the present money val of the property does not necessarily bear any relation to the prices pa at the time of purchase, the reason for this appearing evident upon a analysis of the situation from a manufacturing standpoint.

While I am not intimately conversant with the details of the man facture and operation of factories manufacturing Portland cement, have been in close touch with the development of the industry from i inception in Pennsylvania many years ago, and I believe that the con tions in Michigan do not differ materially from those in other sta where Portland Cement is being manufactured at present.

Michigan has no natural Portland Cement rock, that is, no mater similar to the natural cement rock of Pennsylvania, New York a some other states. Natural cement rock is an impure limestone, in whi the impurities, consisting principally of alumina, iron and silica, a nearly in the right proportions required for the manufacture of Portl cement.

Where no natural cement stone is available, Portland cement is ma by using any materials which contain these ingredients, and which c be mixed in the proper proportions to produce a mixture of the rig chemical composition.

For this purpose any material that contains a large percentage lime, such as limestone, marble, shells, or marl may be used, and t deficiency in alumina and silica can be supplied by the addition of cl mud, slate, shale, quartz, sand, sandstone or other materials.

As limestone, clay, mud, shale, sand and slate are plentiful in alm all parts of the world, being among the most common of the formatio that form the earth's outer crust, Portland cement may be manufactu in almost any desired locality. It is, however, desirable or neces that the materials used should not contain more than a very small p centage of magnesia, and as magnesia is present in considerable quanti in many deposits of limestone, this requirement restricts the manuf ture to those localities where limestone containing very little magne can be had; but as suitable limestone is available in enormous quan ties at an unlimited number of localities in the United States, this striction practically does not limit the location of Portland cem works to any particular districts or states.

In addition to these natural products, it has been found possible use slag (cinder) from blast furnaces for the manufacture of Portl cement, the slag being ground and mixed with lime (and possibly cl to make a mixture of the required composition.

In searching for raw materials for the manufacture of Portl cement, at an early stage in the development of the industry, it w recognized that the deposits of marl in Michigan and elsewhere might vantageously be used in place of limestone, and it was thought that softness of the material would greatly cheapen the cost of manufact by substituting the cost of excavation of the marl for the cost of quar ing limestone, and by reducing the cost of grinding and mixing the gredients. Following the general belief in these arguments, lands a lakes containing deposits of marl were eagerly sought, company af company was organized to manufacture cement from them, and pro ties containing such deposits were bought and sold at very high prices

In the course of a few years of practical experience in the manufac-
e of cement from these deposits, it was found that in many cases
tories using marl had little if any advantage over those using lime-
ne. The large quantity of water contained in the marl, which must
evaporated, inyolves an expense perhaps equal to the difference be-
een the costs of grinding marl and limestone, the difficulties in ex-
ating and handling the marl were greater than was anticipated, and
many cases the percentage of impurities, of organic matter, and
er objectionable constitutents was large and troublesome. As a
ult of these unfavorable experiences with marl deposits, some of the
panies abandoned the use of marl and remodeled their plants to use
esome. The experience of other companies using marl was that they
ld not manufacture cement any cheaper than their competitors who
e using limestone.

It seems, therefore, safe to conclude that as a material for the manu-
ure of cement, marl (which may be regarded as an unsolidified lime-
e) is no more valuable acre for acre, or ton for ton, than limestone.

VALUE OF MARL AND LIMESTONE LAND.

As experience in cement making has shown that marl is not inherently
intrinsically more valuable than limestone, the value of each for
ent making will be subject to the same limitations. It is a well known
t that the mere presence of limestone seldom increases the value of
d. In a region well supplied with limestone, and in which the lime-
e, as such, generally has no market value separable from the value
the surface, if a deposit of limestone of good quality and of relatively
ll area is in close proximity to a city, to a chemical works or other
ge consumer, and exists under conditions especially favorable to cheap
rrying, then such property becomes valuable by reason of the pres-
e of limestone. Conditions favorable to cheap quarrying may be,
ght of the deposit above the surrounding country sufficient to per-
t of the opening of a high quarry face and a self draining pit, or
ll quantity of soil or other surface material to be removed in open-
g and working the quarry, or such composition of the stone as will
mit of the use of all of it, either for making quick-lime, or as building
ne, railroad ballast, road macadam, for concrete construction or for
ment or chemical manufactures. But when limestone of such char-
er and conditions exists over a large area, or throughout a district,
supply being greatly in excess of any possible demand, lands con-
ing it are not salable at higher prices than those which do not con-
n it.

dence when lands containing an abundant raw material such as lime-
ne, shale, clay or sand become valuable and salable because of the
sence of the material and of physical conditions favorable to a cheap
avation, the question arises as to whether the purchaser is paying
the material or for the advantage of location and ease of extraction
d transportation to market. It seems to me not illogical to adopt
latter views and unless some special advantages can be shown, to
clude that the only method by which such property can be appraised
t be based upon the value which can directly be traced to the re-
ced cost of extraction and transportation. For example, if a limestone

quarry be located so much closer to a market than any other simil property, that there is a saving of 25 cents per ton in the cost of tra portation, than the value of the deposit will be fixed by this differe in the cost of transportation, and its present money value may be c culated from the quantity of material available and the quantity whi can be sold each year.

The deposits of marl and of limestone which in Michigan are u as raw materials for the manufacture of cement, do not belong to th classes to which definite value can be fixed by reason of location, of any special conditions such as have been described, unless in a case it can affirmatively be shown that such lands have a present mo value (at which they are salable) which is appreciably in excess of t value of the surface for farming or other purposed.

VALUE OF SHALE AND CLAY.

The same reasoning applied to marl and limestone applies also to t shale and clay used in the manufacture of Portland cement, or for m ing brick, sewer pipe, terra-cotta ware, etc. Deposits of these materi rarely have any definable value unless they are scarce or happen to be a certain unusual quality which adapts them to the manufacture relatively high-priced products. In this latter class are the high-gr fireclays used in the manufacture of firebrick, porcelain and potte clay, etc.

In other words, I believe that limestone, marl, shale, clay and ot similar raw materials of which the supply is abundant and practica inexhaustible, while useful and valuable, have no definable money va until labor and money have been expended in excavating and transpo ing them to market, and the value of the products into which they a manufactured is measured solely by the cost of labor and materials e pended in making them.

VALUE OF GYPSUM AND SALT.

In the same way these generalizations can be extended to the depo of gypsum of salt and of brine found in many parts of Michigan.

I append a tabulation of the material gathered by Prof. Cook a also of that contained in the reports returned by the several operati companies upon the blanks which were sent to them for that purp

Respectfully submitted,

H. M. CHANCE.

298 *Calendar Entries.*

Parties.	Action.	Plaintiff's attorney.	Defendant's attorney.
Sunday Lake Iron Company, a corporation, Plaintiff, vs. Township of Wakefield, Defendant.	Assumpsit.	William P. Belden.	Jas. A. O'Neil.

No. 4604.

Costs.	Date. Month.	Day.	Year.	Journal page.		Proceedings.
$3.00	Feb'y	5	1912		Issued,	Summons.
	"	10	"		Filed,	Summons returned served.
	"	20	"		"	Plaintiff's declaration.
	"	21	"		"	Notice of appearance.
	March	14	"		"	Plea.
	Oct.	26	"		"	Notice of trial and Note of issue.
	Oct.	30	"		"	Countermand of notice of trial for November term.
	Jan'y	15	1913		"	Notice of issue and Notice of trial.
	"	17	"		"	Stipulation amending declaration.
	"	"	"		"	Notice of trial.
	"	"	"		"	Note of issue.
	"	31	"		"	Notice to produce papers.
	April	16	"		"	Subpœna returned served on Robert H. Shields.
	"	21	"		"	Subpœna returned served on K. S. Markstrum.
	"	25	"	6 | 185	Entered,	Judgment for defendant
	"	"	"		Filed,	Plaintiff's request to charge.
	May	24	"		"	Appeal bond.
	July	28	"		"	Stipulation extending time to settle bill of exceptions.
	Aug.	19	"		"	and entered, Order for extention of time.
	"	23	"		"	Bill of exceptions.
	"	26	"		Received,	Writ of error.

299 In the Supreme Court of the State of Michigan.

SUNDAY LAKE IRON COMPANY, Plaintiff in Error,
vs.
TOWNSHIP OF WAKEFIELD, Defendant in Error.

Petition for Writ of Error.

To the Honorable Flavius L. Brooke, Chief Justice of the Supreme Court of the State of Michigan:

Now comes the Sunday Lake Iron Company and alleges that it is a corporation duly organized and existing under the laws of the State of Michigan, and a citizen of the United States of America, and further alleges:

That heretofore and on or about the 5th day of February, 191
an action was commenced in the Circuit Court of Gogebic Coun
Michigan, in which the Sunday Lake Iron Company was plaintif
and the Township of Wakefield, a duly organized township un
the laws of the State of Michigan, constituting a part of the
County of Gogebic, was defendant.

The declaration in said action alleged: That the plaintiff was,
prior thereto had been, the lessee of certain mining property in
Township of Wakefield, commonly known as the Sunday La
Mine, and the Iron Chief Mine, and that under the terms of
mining lease, it was the duty of the plaintiff to pay all taxes
might be lawfully assessed against said premises; that on the 1
day of April, 1911, the defendant placed on said Sunday La
mine property a valuation of Sixty Thousand Dollars ($60,00
and on said Iron Chief mine property a valuation of F
300 Thousand Dollars ($5,000); that said valuation was
after at a meeting of the Board of Review of said Town
approved and confirmed. That said assessment, if not amoun
to the full cash value of said mining properties, represented at l
as large a proportion thereof as the general average of the
ments in said township upon all classes of property therein re
sented; that the property in said township other than the mi
property was not assessed at its full cash value, but was u
assessed by said township, at not exceeding one-third of its true
value, and large amounts of personal property, the existence
which was well known to the defendant, were omitted from
assessment roll for the year 1911.

The said declaration further alleged that thereafter the Boar
State Tax Commissioners met for the purpose, among other thi
of reviewing the assessment roll of said township of Wakefield
the year 1911; and said Board proceeded to raise and increase
assessment of said Sunday Lake Mine property and Iron C
Mine property without at the same time changing or correc
the assessments of property generally in said township of Wa
field, other than iron mining properties; that the plaintiff obje
to the increase of the assessments on its said property, without
increase at the same time of the assessments on property gener
in said township of Wakefield, other than mining property,
plaintiff offered to prove the aforesaid under-valuation of prop
generally in said township of Wakefield; but said Board refused
receive proof so offered by the plaintiff, and well knowing the
going facts, and against the objection of the plaintiff, increased
assessment upon said Sunday Lake Mine property to Nine Hund
Eighty-nine Thousand Dollars ($989,000), and the said Iron C
Mine property to Eighty-three Thousand Dollars ($83,000)
did not change or increase the assessments on pro
301 generally in said township of Wakefield, other than mi
property; that said assessments on plaintiff's said prop
were vastly in excess of the true cash value of said mining pro
and were placed by said Board upon said property with the

tion and for the purpose of requiring the plaintiff to pay more than its just proportion of the taxes of said township for the year 1911.

Said declaration further alleged that thereafter taxes in the total amount of Thirty-one Thousand Nine Hundred Ten and 45/100 Dollars ($31,910.45) were levied upon the said property of the plaintiff, based upon the foregoing unequal assessments; that after said taxes had become an apparent lien upon said property, the plaintiff, on the 9th day of January, 1912, paid the said taxes to the defendant, but under written protest, objecting to the validity of the said taxes, and of the assessments upon which same were based, and denying the right of the defendant to collect same; that the defendant was not entitled to collect or receive from the plaintiff the said amount or any part thereof, for which reason the plaintiff had been damaged in the sum of Forty Thousand Dollars ($40,000), to recover which the suit was brought.

Thereafter, on issue joined, the said case came on for trial before the Circuit Court for the County of Gogebic, Michigan, Plaintiff introduced evidence in support of all the allegations of this declaration, including evidence proving a plan upon the part of the Board of State Tax Commissioners to assess the mining property in said township of Wakefield (including the plaintiff's said property) at a valuation equal to or in excess of its fair cash value, without at the same time changing or increasing the under-assessment upon property generally in said township, other than mining property, and thereby to assess said mining property unjustly and unequally.

302 Thereupon the defendant rested without introducing any evidence. The plaintiff requested the court to direct a verdict in its favor, but said motion was denied, and the court granted the motion of the defendant to direct a verdict in its favor. Thereupon judgment was entered in favor of the defendant and dismissing the action of the plaintiff, to which the plaintiff duly excepted.

Thereafter, the plaintiff duly appealed to the Supreme Court of the State of Michigan, it being the highest court in said State in which a decision in said suit could be had; and said Court after argument before it, entered judgment against the plaintiff, affirming the judgment of said Circuit Court.

That in the trial in said Circuit Court of Gogebic County, Michigan, and thereafter on appeal in said Supreme Court of Michigan, plaintiff through its counsel duly urged that judgment should be entered in its favor against the defendant, for the reason that the action of the Board of State Tax Commissioners for said State, in wilfully raising the assessment of the plaintiff's property to an amount in excess of its true cash value, while knowingly leaving property generally in said township (other than mining property) under-assessed, and the action of the authorities of said State and the defendant, Wakefield Township, in collecting the tax in question from the plaintiff, based upon said unequal assessment—constituted a fraud on the rights of the plaintiff and denied to it the equal protection of the laws of Michigan, and took its property

without due process of law, in violation of the provisions of the XIV Amendment to the Constitution of the United States.

That said Circuit Court and said Supreme Court denied to the plaintiff the rights claimed by it under the Constitution of the United States, and their judgments and decisions resulted
303 in denying to the plaintiff the equal protection of the laws of the State of Michigan, and in taking its property without due process of law, in violation of the provisions of the XIV Amendment to the Constitution of the United States.

Wherefore, your petitioner prays for the allowance of a Writ of Error from the Supreme Court of the United States to the Supreme Court of the State of Michigan, to the end that the record in said matter be removed into the Supreme Court of the United States, and the error complained of by your petitioner may be corrected, and said judgment reversed.

SUNDAY LAKE IRON COMPANY,
By WILLIAM P. BELDEN,
Attorney for Petitioner.
HORACE ANDREWS,
Of Counsel.

STATE OF MICHIGAN,
County of Marquette, ss:

William P. Belden being duly sworn, deposes and says that he is the attorney of record for the foregoing petitioner, and that the foregoing petition is true of his own knowledge, except as to the matters therein stated to be alleged upon information and belief, and as to those matters he believes the same to be true.

WILLIAM P. BELDEN.

Subscribed and sworn to before me this 28th day of Sept., 1915.
OLGA C. ERICKSON,
Notary Public in and for said County and State.

My commission expires Apr. 7, 1918.

The Writ of Error as prayed for in the foregoing petition is hereby allowed this 8th day of October, 1915.
Bond for that purpose is fixed at the sum of $300.00 Dollars.
FLAVIUS L. BROOKE,
Chief Justice of the Supreme Court of the State of Michigan.

[Endorsed:] 386/25834. State of Michigan. The Supreme Court. Sunday Lake Iron Company, Plaintiff in Error, vs. Township of Wakefield, Defendant in Error. Petition for Writ of Error. Filed Oct. 2, 1915. Chas. C. Hopkins, Clerk Supreme Court. William P. Belden, Att'y for Pl'nt'f in Error. Business Address: Ishpeming, Michigan. Horace Andrews, of Counsel.

304 UNITED STATES OF AMERICA, *ss:*

The President of the United States of America to the Honorable the Judges of the Supreme Court of the State of Michigan, Greeting:

Because in the record and proceedings, as also in the rendition of the judgment of a plea which is in the said Supreme Court before you, or some of you, being the highest court of law or equity of the said State in which a decision could be had in the said suit between the Sunday Lake Iron Company, as Plaintiff, and the Township of Wakefield, as Defendant wherein was drawn in question the validity of a treaty or statute of, or an authority exercised under, the United States, and the decision was against their validity; or wherein was drawn in question the validity of a statute of, or an authority exercised under, said State, on the ground of their being repugnant to the Constitution, treaties, or laws of the United States, and the decision was in favor of such their validity; or wherein was drawn in question the construction of a clause of the Constitution, or
305 of a treaty, or statute of, or commission held under the United States, and the decision was against the title, right, privilege, or exemption specially set up or claimed under such clause of the said Constitution, treaty, statute, or commission; a manifest error hath happened to the great damage of the said Plaintiff, the Sunday Lake Iron Company as by its complaint appears. We being willing that error, if any hath been, should be duly corrected, and full and speedy justice done to the parties aforesaid in this behalf, do command you, if judgment be therein given, that then under your seal, distinctly and openly, you send the record and proceedings aforesaid, with all things concerning the same, to the Supreme Court of the United States, together with this writ, so that you have the same in the said Supreme Court at Washington, within 30 days from the date hereof, that the record and proceedings aforesaid being inspected, the said Supreme Court may cause further to be done therein to correct that error, what of right, and according to the laws and customs of the United States, should be done.

Witness the Honorable Edward D. White, Chief Justice of the United States, the 14th day of October, in the year of our Lord one thousand nine hundred and fifteen.

[Seal of the U. S. District Court, Southern Division, Western District of Mich.]

CHAS. J. POTTER,
Clerk U. S. District Court, West. Dist. Mich.

Allowed by

FLAVIUS L. BROOKE,
Chief Justice of the Supreme Court of the State of Michigan.

[Endorsed:] Filed Oct. 16, 1915. Chas. C. Hopkins, Clerk Supreme Court.

306 UNITED STATES OF AMERICA, ss:

To the Township of Wakefield, Greeting:

You are hereby cited and admonished to be and appear at a Supreme Court of the United States, at Washington, within 30 days from the date hereof, pursuant to a writ of error, filed in the Clerk's Office of the Supreme Court of State of Michigan wherein the Sunday Lake Iron Company is plaintiff in error and you are defendant in error. to show cause, if any there be, why the judgment rendered against the said plaintiff in error as in the said writ of error mentioned, should not be corrected, and why speedy justice should not be done to the parties in that behalf.

Witness, the Honorable Flavius L. Brooke, Chief Associate Justice of the Supreme Court of the *United States*, this eighth day of October, in the year of our Lord one thousand nine hundred and fifteen.

[Seal of the Supreme Court of Michigan, Lansing.]

FLAVIUS L. BROOKE,
Chief Justice of the Supreme Court of the State of Michigan.

STATE OF MICHIGAN,
County of Marquette, ss:

On this 13th day of October, in the year of our Lord one thousand nine hundred and fifteen, personally appeared Thomas Clancey, before me, the subscriber, a Notary Public in and for said County and State, and makes oath that he delivered a true copy of the within citation to James A. O'Neill, attorney for defendant in error in the within cause, by placing a copy of said citation in an envelope, well sealed and with postage prepaid thereon, addressed to James A. O'Neill, Ironwood, Michigan, and deposited the same in the United States Post Office at Ishpeming, Michigan.

THOMAS CLANCEY.

Sworn to and subscribed the 13th day of October, A. D. 1915.

OLGA C. ERICKSON,
Notary Public in and for said County and State.

My commission expires Apr. 7, 1918.

[Endorsed:] Filed Nov. 1, 1915. Chas. C. Hopkins, Clerk.

307 (Copy.)

Know all men by these presents, That we, the Sunday Lake Iron Company, a Michigan Corporation, as principal, and William P. Belden, of the City of Ishpeming, Marquette County, Michigan, as surety, are held and firmly bound unto the Township of Wakefield of Gogebic County, Michigan, in the full and just sum of Three Hundred ($300.00) dollars, to be paid to the said Township of Wakefield, its certain attorney, executors, administrators, or assigns; to

which payment, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, by these presents. Sealed with our seals and dated this 11th day of October, in the year of our Lord one thousand nine hundred and fifteen.

Whereas, lately at a term of the Supreme Court of the State of Michigan, in a suit depending in said Court, between Sunday Lake Iron Company, plaintiff and appellant, and Township of Wakefield, defendant and appellee, a judgment was rendered against the said Sunday Lake Iron Company and the said —— —— having obtained a writ of error and filed a copy thereof in the Clerk's Office of the said Court to reverse the judgment in the aforesaid suit, and a citation directed to the said Sunday Lake Iron Company, dated October 8th, 1915 citing and admonishing it to be and appear at a Supreme Court of the United States, at Washington, within thirty days from the date thereof.

Now, the condition of the above obligation is such, That if the said Sunday Lake Iron Company shall prosecute its writ of error to effect, and answer all damages and costs if it fail to make its plea good, then the above obligation to be void; else to remain in full force and virtue.

SUNDAY LAKE IRON COMPANY, [SEAL.]
By WILLIAM P. BELDEN, [SEAL.]
Attorney in Fact.
WILLIAM P. BELDEN. [SEAL.]

Sealed and delivered in presence of—
THOMAS CLANCEY.
OLGA C. ERICKSON.

Approved by—
FLAVIUS L. BROOKE,
Chief Justice of the Supreme Court of the State of Michigan.

I hereby approve of the form of this bond and the sufficiency of the surety thereon.
JAMES A. O'NEILL,
Attorney for Defendant in Error.

(Endorsed:) Filed Oct. 20, 1915. Chas. C. Hopkins, Clerk Supreme Court.

308 UNITED STATES OF AMERICA:

In the Supreme Court of the United States.

To the Honorable the Supreme Court of the United States:

SUNDAY LAKE IRON COMPANY, Plaintiff in Error,
vs.
TOWNSHIP OF WAKEFIELD, Defendant in Error.

Prayer for Reversal.

And now comes the Plaintiff in error above named, by William P. Belden, its attorney, with Horace Andrews of counsel, and prays for a reversal of the judgment of the Supreme Court of the State of Michigan, made and entered on the 14th day of June, 1915, in the action brought by the Sunday Lake Iron Company, plaintiff and appellant, vs. Township of Wakefield, defendant and appellee, for the reason that said judgment is erroneous and not in accordance with law and justice, and would deprive said Plaintiff in Error of its just rights in the premises, and said Plaintiff in Error feels aggrieved thereby and respectfully prays that the same be reversed and set aside with costs to said Plaintiff in Error.

Dated Ishpeming, Michigan, October 30th, 1915.

WILLIAM P. BELDEN,
Attorney for Plaintiff in Error.

Business address: Ishpeming, Michigan.

HORACE ANDREWS,
Of Counsel.

[Endorsed:] United States of America. In the Supreme Court of the United States. Sunday Lake Iron Company, Plaintiff in Error, vs. Township of Wakefield, Defendant in Error. Prayer for Reversal. Filed Nov. 1, 1915. Chas. C. Hopkins, Clerk Supreme Court. William P. Belden, Att'y for Plaintiff in Error. Business Address: Ishpeming, Michigan. Horace Andrews, of Counsel.

309 UNITED STATES OF AMERICA:

In the Supreme Court of the United States.

SUNDAY LAKE IRON COMPANY, Plaintiff in Error,
vs.
TOWNSHIP OF WAKEFIELD, Defendant in Error.

Assignments of Error.

Now comes the Sunday Lake Iron Company, Plaintiff in Error herein, and makes and files this its assignments of error in respect to the final judgment of the Supreme Court of the State of Michigan

nade in the above entitled cause on the 14th day of June, 1915, in aid cause and in the opinion filed therein, to-wit: The said Supreme Court of the State of Michigan err—

First. In entering said final judgment, affirming the judgment heretofore entered against said Plaintiff in Error by the Circuit Court for the County of Gogebic and State of Michigan.

Second. In denying the following claim and contention presented and urged in behalf of said Plaintiff in Error before said court:—

"That the said Board committed a fraud upon the rights of the plaintiff in willfully raising the assessment of its property to an amount in excess of its true value while at the same time with full knowledge of the general under-assessment of other property it wrongfully refused to raise or increase at all the assessment of such other property, with the purpose and effect of making the plaintiff pay more than its just proportion of the taxes for the year 1913."

Third. In denying the following claim and contention presented and urged in behalf of said Plaintiff in Error before said court:—

"That the action of the State Board here complained of resulted in denying to the plaintiff the equal protection of the laws of the State of Michigan, and in substance and effect took the plaintiff's property without due process of law, in violation of the provisions of the 14th Amendment to the Constitution of the United States."

Fourth. In denying the following claim and contention presented and urged in behalf of said Plaintiff in Error before said court:—

"That the Board of State Tax Commissioners willfully and fraudulently imposed upon the property of the plaintiff an assessed valuation grossly in excess of its true cash value."

Fifth. In holding and deciding that,—

"After a careful consideration of this record and the plaintiff's claims, and considering all the testimony produced in the light most favorable to the plaintiff, without determining the relevancy of such testimony as was admitted to show changes in conditions subsequent to the assessment, we cannot agree that there is any evidence to sustain that the State Board of Tax Commissioners in disregard of its duty recklessly or intentionally or fraudulently over-valued the plaintiff's property for taxation."

Sixth. In holding and deciding that,—

"The figure arrived at may possibly have been in fact too high or too low, but Mr. Shields, one of the commissioners who himself had charge of the review, and was familiar with the development of iron mines on the Gogebic range and its ore formation, we are convinced, acted honestly, fairly and in good faith upon all the information he had at hand, and made a proper and legal assessment in fixing the value of plaintiff's mine."

Seventh. In further holding and deciding that,—

"We are in the instant case unable to find any specific data in this record to sustain the conclusion that the non-mining property in the defendant township was not assessed relatively as high in 1911 as was the mining property."

Eighth. In denying the following claim and contention presented and urged in behalf of said Plaintiff in Error before said court, to-wit:—

"That the plaintiff is entitled on this record to have judgment entered in its favor."

Dated this 30th day of October, 1915.

WILLIAM P. BELDEN,
Attorney for Plaintiff in Error.
HORACE ANDREWS,
Of Counsel.

[Endorsed:] United States of America. In the Supreme Court of the United States. Sunday Lake Iron Company, Plaintiff in Error, vs. Township of Wakefield, Defendant in Error. Assignments of Error. Filed Nov. 1, 1915. Chas. C. Hopkins, Clerk. William P. Belden, Att'y for Plaintiff in Error. Business Address: Ishpeming, Michigan. Horace Andrews, of Counsel.

311 At a Session of the Supreme Court of the State of Michigan, Held at the Supreme Court Room, in the Capitol, in the City of Lansing, on the seventh day of January, in the year of our Lord one thousand nine hundred and fourteen.

Present: The Honorable Aaron V. McAlvay, Chief Justice, Flavius L. Brooke, Franz C. Kuhn, John W. Stone, Russell C. Ostrander, John E. Bird, Joseph B. Moore, Joseph H. Steere, Associate Justices.

SUNDAY LAKE IRON COMPANY
vs.
TOWNSHIP OF WAKEFIELD.

This cause coming on to be heard is argued by Mr. Belden and Mr. Andrews for Plaintiff and by Mr. O'Neill and Mr. Driscoll for Defendant and submitted.

312 *Opinion.*

Filed June 14, 1915.

SUNDAY LAKE IRON COMPANY, Plaintiff and Appellant,
vs.
TOWNSHIP OF WAKEFIELD, Defendant.

Before the Full Bench.

KUHN, *J.*:

This action is brought in assumpsit to recover from the defendant $31,910.45 in taxes on its property for the year 1911, paid by the plaintiff under protest. At the conclusion of the testimony the trial court directed a verdict for the defendant of no cause of

action, and, judgment being entered thereon, plaintiff brings the case to this court for review by writ of error.

The property of the plaintiff was assessed in the years 1910 and 1911 by the township supervisor at $65,000. In 1911, the Board of State Tax Commissioners, acting under authority of legislative enactment (Act No. 114, P. A. 1911), employed an expert mining engineer, Mr. James R. Finlay, of New York City, to assist it in making an appraisal of the value of the mining properties throughout the state. Mr. Finlay, assisted by Dr. C. K. Leith, professor of geology in the University of Wisconsin, and others, made an investigation of these properties extending over a period of three months, and made a report to the Board of State Tax Commissioners with reference thereto on August 18, 1911, which report contained a valuation of the plaintiff's property. The method pursued by Mr. Finlay and his assistants in making this appraisal is set forth and commented upon in the opinion of this court
313 written by Mr. Justice Ostrander, in the case of Newport Mining Co. v. City of Ironwood, 152 N. W. 1088. Mr. Finlay's estimate of the value of the property of the plaintiff company was $1,460,000.

At a hearing by the State Board of Tax Commissioners in the village of Bessemer in October, 1911, held for the purpose of reviewing the assessments of mining properties in the township of Wakefield, the board raised the assessment of plaintiff's property from $65,000 to $1,071,000. At this hearing the plaintiff, by its representative, objected to the assessment on the grounds that: First, the valuation was grossly in excess of the true cash value; second, the Finlay method of determining the value was contrary to the manner in which other property was assessed throughout the state; and, third, it was not proportionate to the assessment of other property generally in Wakefield township.

The claims that are now urged by counsel for appellant are stated by them in their brief as follows:

(1) That the said board committed a fraud upon the rights of the plaintiff in willfully raising the assessment of its property to an amount in excess of its true value, while at the same time with full knowledge of the general underassessment of other property it wrongfully refused to raise or increase at all the assessment of such other property, with the purpose and effect of making the plaintiff pay more than its just proportion of the taxes for the year 1913.

(2) That the action of the State Board here complained of resulted in denying to the plaintiff the equal protection of the laws of the state of Michigan, and in substance and effect took the plaintiff's property without due process of law, in violation of the provisions of the fourteenth amendment to the Constitution of the United States.

(3) That the Board of State Tax Commissioners willfully and fraudulently imposed upon the property of the plaintiff an assessed valuation grossly in excess of its true cash value.

(4) That the plaintiff is entitled on this record to have judgment entered in its favor.

In general, it is plaintiff's claim that Mr. Finlay obtained his results without personal examination and acted largely on information derived from map and knowledge obtained from Mr. Leith, his assistant, who did visit the mine, and that acting upon this information he estimated that the ore deposit in the Sunday Lake and Brotherton mines—the latter adjoins the former on the west—contained 3,500,000 tons, 1,500,000 of which he judged were in the Sunday Lake property. Witnesses were produced on the part of the plaintiff who testified that the deposit in the plaintiff's mine could not be expected to exceed 400,000 tons, and that its value was not over $550,000 and on the trial a map was produced showing a dyke which underlaid the Brotherton mine and dipped toward the east, below which drilling had discovered no ore. There was evidence that the approach to this dyke in the Brotherton mine had been indicated by an increasing amount of non-Bessemer
314 ore, and that subsequent developments in 1912 showed that the Brotherton mine did not bear out the expectations of 1911, one of the plaintiff's witnesses saying it had run out; and also that on the twentieth level in the Brotherton mine (the lowest level in 1911) the dyke was running in a downwardly direction, but, at the intersection of the twenty-first level, reached in 1912, it had changed its course to a more horizontal direction, the engineer who had prepared the map saying that it was flattening rapidly toward the east. Coupling this evidence with the fact that the amount of non-Bessemer ore was increasing rapidly in the Sunday Lake mine, the plaintiff contends that it is well-nigh certain that the dyke will soon be encountered and the ore exhausted in the Sunday Lake mine.

It is defendant's claim that the record shows that these claims on the part of the plaintiff are met by the testimony of Mr. Finlay, who said that in making his valuation he had considered the presence of the dyke, and that the ore body had been showing an enlargement in the Sunday Lake property which would make unnecessary the depth assumed by the plaintiff to be required to develop 1,500,000 tons; also, the testimony of Dr. Leith, who said that a subsequent examination of the mine in 1912 did not modify, in his opinion, the value fixed by Mr. Finlay; also, the admission of plaintiff's witness Crowell, a mining engineer, who stated that he thought the dyke would eventually get to Sunday Lake mine, but "just what angle it will assume when it comes there I cannot say."

In the opinion of this court in the Newport Mining Company Case, supra, we have discussed and determined the propriety of the Finlay method of appraising mining property and of the use of such an appraisal by the State Board of Tax Commissioners in reviewing the assessments. Indeed, in this case no serious criticism is made of that method of appraisal, and it is said that it, "when based upon correct factors and assumptions, might produce reasonably satisfactory results." It is insisted however, that, because

it was hastily and superficially applied in the instant case, it resulted in a legal fraud, in that the property of the plaintiff company was assessed grossly in excess of its true cash value. It is urged that, as a matter of law, the proof of fraud does not require the establishment of an evil or vicious intent on the part of the State Board of Tax Commissioners, and that all that it is necessary to show is that the act in question was wrongful and that it was intentionally done, and that if its result was to produce injury it is fraudulent in the eye of the law.

With reference to this claim, the learned trial judge in his charge said:

"We find that the State Board of Tax Commissioners took these figures of Mr. Finlay of $1,460,000 and considered them, and considered the method by which he placed the value upon
315 the mine, and then made a reduction of approximately $388,000 from those figures, making the assessment as fixed by the State Board of Tax Commissioners at $1,072,000; the State Board of Tax Commissioners having raised the property from $65,000 to $1,072,000. The immense difference between Mr. Finlay's figures and the State Board of Tax Commissioners, approximately $388,000, shows conclusively that they did not accept all of his figures, but made an enormous allowance from his figures; in fact, they cut them approximately 26 per cent, so that the State Board of Tax Commissioners assessed this property at 26 per cent below its cash value as fixed by Mr. Finlay.

"I find no evidence in this case which would justify the court in arriving at a conclusion that the State Board of Tax Commissioners acted fraudulently towards this plaintiff, or unjustly. The evidence all indicates that they used their best judgment and their honest endeavors, assisted by the state, in having this expert employed, and, after an expenditure of many thousands of dollars in getting this information. I think there is but one conclusion, and that is that the State Board of Tax Commissioners acted fairly, honestly, and justly towards this plaintiff in arriving at this valuation upon the property in question, and there is nothing to justify the court in setting aside their action and finding a verdict in favor of the plaintiff. I know of no way by which a more accurate or just method could be found for getting at the value of these mines."

The law in this state with reference to fraudulent overvaluation for taxation purposes has recently had the consideration of this court, in the case of Island Mill Lumber Co. v. City of Alpena, 176 Mich. 579, 142 N. W. 771, in which Mr. Justice Steere, in speaking for the court, said:

"Counsel for plaintiff contend that the question of fraud is never a question of law, but is always held by all courts to be a question of fact for the jury, citing numerous cases. This is unquestionably correct, when there is in the case legitimate evidence of fraud to raise the issue, but whether or not there is any probative evidence of fraud in the case is a question of law for the court. Fraud is never presumed; there must be evidence tending to prove it. The law upon the question of fraudulent overvaluation for taxation purposes is

well settled in this state. It must be something more than an honest mistake in judgment to defeat a tax. In 2 Cooley on Taxation (3d Ed.) p. 1459, it is said: 'An assessment is not fraudulent merely because of being excessive, if the assessors have not acted from improper motive; but, if it is purposely made too high through prejudice or a reckless disregard of duty in opposition to what must necessarily be the judgment of all competent persons, * * * the case is a plain one for the equitable remedy by injunction.' In such case the tax is necessarily invalid. The above rule has been quoted by this court with approval and consistently followed. The subject is exhaustively discussed, with citation of numerous authorities, in Pioneer Iron Co. v. City of Negaunee, 116 Mich. 430, 74 N. W. 709, and City of Muskegon v. Boyce, 123 Mich. 535, 82 N. W. 264."

See, also, Port Huron v. Wright, 150 Mich. 279, 114 N. W. 76.

After a careful consideration of this record and the plaintiff's claims, and considering all the testimony produced in the light most favorable to the plaintiff, without determining the relevancy of such testimony as was admitted to show changes in conditions subsequent to the assessment, we cannot agree that there is any
316 evidence to sustain the charge that the State Board of Tax Commissioners, in disregard of its duty, recklessly or intentionally or fraudulently overvalued the plaintiff's property for taxation. Applying the rule cited above in the Island Mill Lumber Co. Case from Cooley on Taxation, it cannot be said that the State Board of Tax Commissioners acted in "reckless disregard of duty, in opposition to what must necessarily be the judgment of all competent persons." In fixing the value of this mine the State Board did use the information produced for it by disinterested experts of high standing, in accordance with authority granted by an act of the Legislature of this state. The figure arrived at may possibly have been in fact too high or too low, but Mr. Shields, one of the commissioners, who himself had charge of the review, and was familiar with the development of iron mines on the Gogebic range and its ore formation, we are convinced, acted honestly, fairly, and in good faith upon all the information he had at hand, and made a proper and legal assessment in fixing the value of plaintiff's mine in the way that he did.

The claim is also made, as was made in the Newport Case, supra, that the value of one class of property—mining property—was raised and the values of other classes of property known to be undervalued were not raised, and that such intentional inequality of assessment constitutes fraud and invalidates the tax. This is based largely upon claimed admissions of Mr. Shields of his knowledge of the undervaluation of other property in the state and in that locality, and the fact that great increases were made in the assessment of other than mining property in the year 1912.

An examination of the evidence in this record is convincing that the business of the defendant township depended almost entirely upon the mining business, and the mine of the plaintiff company, which was one of the largest mines in the township, in 1911 was assessed at the small sum of $65,000, although plaintiff now admits

that it is reasonably worth the sum of $450,000. People, generally at least, did not know the extent of the ore deposits, and it appears that business was dull. It further appears that after the report of the Finlay appraisal was made public, disclosing the value and the long life of the mines in the township, business conditions in the village and township of Wakefield became better and the values of property increased. These changed conditions, it may be said, at least in part accounted for the increased assessments in 1912, and, as in the Newport Case, we are in the instant case unable to find any specific data in this record to sustain the conclusion that the nonmining property in the defendant township was not assessed relatively as high in 1911 as was the mining property.

We are convinced that the trial judge arrived at the proper conclusion in directing a verdict for the defendant upon this record, and the judgment is therefore affirmed.

(Signed) FRANZ C. KUHN.
FLAVIUS L. BROOKE.
AARON V. McALVAY.
J. W. STONE.
JNO. E. BIRD.
J. H. STEERE.
JOSEPH B. MOORE.
RUSSELL C. OSTRANDER.

317 At a Session of the Supreme Court of the State of Michigan, Held at the Supreme Court Room, in the Capitol, in the City of Lansing, on the fourteenth day of June, in the year of our Lord one thousand nine hundred and fifteen.

Present: The Honorable Flavius L. Brooke, Chief Justice. Aaron V. McAlvay, Franz C. Kuhn, John W. Stone, Russell C. Ostrander, John E. Bird, Joseph B. Moore, Joseph H. Steere, Associate Justices.

SUNDAY LAKE IRON COMPANY, Plaintiff and Appellant,
vs.
TOWNSHIP OF WAKEFIELD, Defendant.

The record and proceedings in this cause having been removed to this Court by Writ of Error, issued to the Circuit Court for the County of Gogebic, and the same and the matters in error assigned, having been seen and inspected and duly considered by the Court, and it appearing to this Court that in said record and proceedings and in the giving of judgment in said Circuit Court there is no error, therefore it is ordered and adjudged that the judgment of said Circuit Court for the County of Gogebic, be and the same is hereby in all things affirmed, and that the defendant do recover of the plaintiff its costs, to be taxed, and that it have execution therefor.

318 Supreme Court of the State of Michigan.

SUNDAY LAKE IRON COMPANY, Plaintiff in Error,
vs.
TOWNSHIP OF WAKEFIELD, Defendant in Error.

IN THE SUPREME COURT, *ss:*

I, Charles C. Hopkins, Clerk of the Supreme Court of the State of Michigan do hereby certify that the annexed and foregoing is a true and correct copy of the Record, and of all the proceedings had and determined in the above entitled cause by said Supreme Court, including the written decision and reasons therefor, signed by the Judges of said Court, and filed in my office, as appears of *of* record and on file in said cause; that I have compared the same with the original and it is a true transcript therefrom and of the whole thereof; that attached thereto are the petition for Writ of Error, the Writ of Error with allowance endorsed thereon, the citation with proof of service of the same upon the adverse party, a copy of the bond duly approved, the prayer for reversal by the plaintiff in error, together with the assignments of error assigned by the attorney for the plaintiff in error.

In testimony whereof, I have hereunto set my hand and affixed the seal of said Supreme Court, at the City of Lansing, this fifth day of November, in the year of our Lord, one thousand nine hundred and fifteen.

[Seal of the Supreme Court, State of Michigan, Lansing.]

CHAS. C. HOPKINS, *Clerk.*

Endorsed on cover: File No. 24,980. Michigan Supreme Court. Term No. 697. The Sunday Lake Iron Company, plaintiff in error, vs. The Township of Wakefield. Filed November 8, 1915. File No. 24,980.

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AUG 5 1916
JAMES D. MAHER
CLERK

Supreme Court of the United States

October Term, 1915

No. [redacted] 38

SUNDAY LAKE IRON COMPANY,
Plaintiff in Error,

vs.

TOWNSHIP OF WAKEFIELD,
Defendant in Error.

In Error to the Supreme Court of the State of Michigan

BRIEF FOR PLAINTIFF IN ERROR

WILLIAM P. BELDEN,
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SUPREME COURT OF THE UNITED STATES

(October Term, 1915).

No. 697.

SUNDAY LAKE IRON COMPANY,
Plaintiff in Error,

vs.

TOWNSHIP OF WAKEFIELD,
Defendant in Error.

BRIEF FOR PLAINTIFF IN ERROR

STATEMENT.

This case is brought into this court by writ of error to the Supreme Court of the State of Michigan to review the determination of that court, affirming the action of the Circuit Court for the County of Gogebic in said State in directing a verdict and entering judgment in favor of the defendant in error at the trial of this case in that court. (22 D. L. N. 558).

On February 5th, 1912, (R. 279) the plaintiff in error brought suit in assumpsit in the Circuit Court for the County of Gogebic against the defendant in error, the Township of Wakefield, to recover the sum of $31,910.45, consisting of the taxes levied upon the property of plaintiff in error in that township during the year 1911, which taxes were paid under protest, upon the ground as set forth in the declaration that said taxes and the assessment were illegal and void.

The plaintiff claimed, among other things, that the taxing authorities of the State of Michigan had wrongfully raised the assessment and valuation of complainant's property for taxation to more than 100% of its value, but knowingly and

intentionally left other property generally in the same taxing district under-assessed, namely: at not to exceed 33% of its value, and omitted entirely from assessment and taxation large amounts of personal property—thus illegally placing upon the plaintiff an unjust burden of taxation, taking its property without due process of law, and denying to it the equal protection of the laws, in violation of its constitutional rights.

The case was brought on for trial before a jury in the Circuit Court for the County of Gogebic (R. 9) and at the conclusion of the plaintiff's testimony the Circuit Judge, on motion of defendant in error, directed a verdict in favor of the defendant, and thereupon entered judgment dismissing the plaintiff's action. (R. 180).

The case was then removed by writ of error to the Supreme Court of the State of Michigan which, as above stated, affirmed the judgment entered in the Circuit Court.

On the 8th of October, 1915, a writ of error was duly allowed to this court by Chief Justice Brooke of the Michigan Supreme Court (R. 282) and the same was filed in this court.

STATEMENT OF FACTS.

(Note:—The record pages referred to in this brief are the numbers found at the top of the printed pages and do not refer to the original paging unless so stated at the time).

The Sunday Lake Iron Company is a corporation organized under the mining laws of Michigan. It holds a mining lease on the properties described in the record as the Sunday Lake Mine and the Iron Chief Mine and is and has been for many years engaged in conducting mining operations on these properties. (R. 84, 85). By the terms of the lease the plaintiff was obligated to pay all taxes which might be assessed against this mining property. (R. 191, 192).

These mines are located in the Township of Wakefield in Gogebic County, Michigan. A map of this township is attached to the record, marked Exhibit 10 (R. 71). The iron

mines of the plaintiff are located in surveyed Township 47, Range 45 (R. 71). When the assessment roll was made up by the supervisor for the year 1911 these two properties were assessed for a total amount of $65,000 (R. 70), which was the same amount for which they were assessed in 1910 (R. 71, 72). All the other property in the township was at the same time assessed by the supervisor and placed upon the roll following generally the valuation which had been placed upon the property in 1910. (R. 71, 72).

The Township of Wakefield, which is the taxing district involved in this case, contains six surveyed townships (Exhibit 10), but no cities and only two villages, namely the Village of Wakefield, and that of Flint (R. 80). The Village of Wakefield and the iron mines are located in surveyed Township 47, Range 45 (R. 71). (See Exhibit 10). There are numerous farms in the same township (R. 71). Outside of this surveyed township, Wakefield township consists chiefly of timber lands (R. 71). The Village of Wakefield contains a number of stores and business houses, one bank, a hotel, a livery stable, a lumber yard and various other places of business. (R. 76, 77, 78). Some of the stores contain large stocks of merchandise. (R. 78, 152, 153).

We shall shortly show herein from the record that the property generally in this taxing district, including the mines, was generally assessed in the year 1911 at not to exceed 33 per cent of the actual cash value, and that this had been the custom for a number of years before; and further that this was probably true of the property generally in Gogebic county and throughout the state.

SPECIAL LEGISLATION FOR ASSESSMENT AND VALUATION OF MINES.

In the year 1911 the legislature of the State of Michigan provided by Act No. 114 of the Public Acts of 1911, for obtaining an appraisal of the value of mining property through-

out the state. (R. 14, 15). By the terms of the act the board was required "to investigate, examine into, inventory and appraise all mining properties in the State of Michigan and all mineral rights which are subject to taxation." The Board of State Tax Commissioners, acting under the authority conferred upon it by this statute, employed James R. Finlay of New York City to supervise and direct the making of this appraisal. (R. 15, 123).

Mr. Finlay entered upon this work on May 24, 1911, and he completed and delivered to the board on August 18, 1911, an elaborate report purporting to give his appraisal and valuation of all the individual mines in all the foregoing counties, together with a general report showing the investigation made by him of the salt, gypsum, marl and other deposits. (R. 123, 124). A copy of this report is bound into and made a part of the record, being complete except as to the schedules of figures prepared by Mr. Finlay which appear attached to a complete copy of the report annexed to the bill of exceptions and filed in this court. (R. 193).

Mr. Finlay did not, as appears from his own report, attempt to base his appraisal upon a physical examination of the mines, and as a matter of fact did not go underground in the Sunday Lake Mine at all. (R. 136, 32).

Mr. Finlay employed to assist him in the appraisal of the iron mines C. K. Leith of the University of Wisconsin, who personally visited the plaintiff's mines. (R. 32). At the request of Mr. Finlay the plaintiff furnished to him a report giving the information requested as to the conduct of its operations and as to the extent of its ore reserves, (R. 87), a copy of which report is found in the record. (R. 182). In addition to this report the plaintiff furnished to Mr. Finlay and Mr. Leith at its office its maps and plans showing the underground workings of the mine (R. 137, 138, 142), and correctly reported to them the facts as to the nature and extent of its ore deposits. (R. 182).

Mr. Finlay and Mr. Leith had no further information with reference to this mine than as derived from an examination of the maps and statements made to them. (R. 138).

The greater part of the ore had been removed from this mine down to the twentieth level, and the estimated amount of ore in sight reported by the company was 150,000 tons. (R. 86, 87, 138). Mr. Finlay did not doubt the correctness of this estimate and made no other or independent investigation of the mine. (R. 138).

Nevertheless, Mr. Finlay estimated and reported that the ore in the Sunday Lake Mine would amount to 1,500,000 tons. (R. 93, 139). As bearing upon the correctness of this estimate, it is worthy of comment that Mr. Finlay in like manner estimated that the Brotherton Mine immediately adjoining the Sunday Lake contained 1,000,000 tons of ore, (R. 136); while, as a matter of fact, the record shows that developments within the year after his estimate was made clearly show that the Brotherton Mine is practically worked out and will shortly be entirely cut off by the dike which passes directly on to the Sunday Lake. (R. 49, 50).

HEARING BEFORE STATE TAX COMMISSION—INCREASE IN ASSESSMENT OF MINES.

After the report and valuation made by Mr. Finlay was completed and filed, the Board of State Tax Commissioners on September 21, 1911, issued an order to the plaintiff and other mine owners to appear at a hearing to be held at the Court House in the Village of Bessemer in Gogebic County on October 2, 1911, for the purpose of reviewing the assessments upon mining property in the tax roll of the Township of Wakefield. (R. 15, 16). The plaintiff appeared at this hearing of the State Board and by its representatives objected to having its property assessed at the valuation reached by Mr. Finlay, upon the ground that this valuation was grossly in excess of the true cash value of the property. (R. 18, 19).

Plaintiff further objected to having the valuation of its property increased upon the ground that other property in Wakefield Township was generally undervalued and underassessed at a rate of not exceeding one-third of its real value, and that large amounts of personal property were entirely omitted from the tax roll, and that it would be unjust to the plaintiff to have its property increased without at the same time raising in like manner the assessment of other property, as such action would result in requiring the plaintiff to pay an unjust proportion of the burden of taxation. (R. 20, 21).

Plaintiff then and there filed a written communication protesting as above stated against any increase in the valuation of its property, and advising the board of the underassessment of property generally in said taxing district, and of the non-assessment and omission of large amounts of property subject to taxation in said district and offering to submit proof of such statements; and at the same time requested a review of the assessments of other property generally throughout the township and asked the board to fix a time and place at which it could submit evidence of the claim so made. (R. 22, 23).

At this hearing Robert H. Shields, the member of said Board of State Tax Commissioners who was conducting said hearing, made the following statement in the course therof:

> "If we had the same detailed information as to valuation of all the other property in these different counties, and had the time, we would have had a general hearing. If we had the general data and the time to cover all these properties, we would have had a general review.
>
> It wasn't detailed information such as we had in Finlay's report. That was obtained by getting a list of transfers of property and taking that and comparing it with the actual assessment roll. And it was necessarily of a limited number of descriptions. In order to have the same information on that property as we have on the mining property, we would have had to have information on every

description of property, but with the method we had, we only had information on those parcels which were actually sold, so we had no official knowledge of the valuation of the large bulk of the property which had not been sold which we do get when we order a general review. We have knowledge of low assessments in practically every assessing district in the state, but it would be a physical impossibility to have hearings in every district in the state.

MR. BELL: You had sufficient information, did you not, so that you felt warranted in reporting to the State Board that property in many counties and especially these iron counties was not assessed at anything like cash value on property outside of the mines?

MR. SHIELDS: We have data showing any number of instances where property is assessed a good deal lower than even general property in the mining counties, but this data did not reach us until within a week before the board of equalization met. * * * * * *

MR. BELL: You were satisfied, were you not, from the information you did have that properties in these counties outside of the mining property was not assessed at full value?

MR. SHIELDS: Yes, there was no question about that."

In addition to these facts the assessment roll made up by the Supervisor was before the board at this hearing showing the nature and amount of the assessments in Wakefield Township. The results and manner of making this assessment are hereinafter referred to.

It thus appears that the direct attention of the Board of State Tax Commissioners was called to the fact of a general and systematic under-assessment of property not only in the Township of Wakefield and the County of Gogebic, but generally throughout the state at large, and that the board admitted knowledge of such fact.

Notwithstanding this admitted knowledge on the part of the board and the offer to furnish proofs of these facts as

to the general property in Wakefield Township, no action was taken by the board with reference to such other property, which was all left on the roll for the year 1911 as assessed by the Supervisor and the local Board of Review, (R. 26), namely at less than 33% of its value.

At the completion of this hearing the Board of State Tax Commissioners raised the assessment of plaintiff's property from the sum of $65,000 to $1,072,000 (R. 80), but except as to mining property they refused in any manner to change the assessments upon any of the other property of the township. The same thing is also true of the entire County of Gogebic. (R. 26).

DISCRIMINATION BETWEEN MINING AND OTHER PROPERTY.

The assessment of the property in the Township of Wakefield (the assessing district here involved), was made in the year 1911 by the supervisor, John Simonson, who appeared as a witness in this case. He testified that he did not examine most of the property in the township and that he prepared the assessment roll and attached the valuations of property set forth therein by substantially following the descriptions and valuations in the 1910 roll (R. 71, 72); and the valuations so used were substantially the same as had been used for several years before that time. (R. 72, 73, 81). He testified as follows:

> "I was elected supervisor early in April, 1911. I did not get the rolls until the last part of April. * * * * The old supervisor held the assessment roll until the last part of April or else the first or second of May. I was rather new at the work and needed the old assessment rolls as a guide.
>
> "Q. After you finally received the new roll, where did you get the descriptions of property and the names of the taxpayers to include in the new roll?

"A. I got it off the old assessment roll for 1910.

"Q. I suppose you copied it off into the new book?

"A. Yes.

"It is rather difficult for a new man to make up the assessment roll. A man is just elected and a new man he does not know anything about it. A township like our township it takes a long time to go over the township and find out what the property is worth. I did not have time to go over the township and find out what the property was worth. A man has not time to do this. The supervisor must have his roll ready at least by the middle of June to take it to the Board of Review and he has only a little time, something more than a month, in which to make the assessments. I went to work and looked over more than one of the old assessment rolls."

* * * *

"I went to work and looked over several of these old assessment rolls. I based my opinion upon the values which had been placed on property heretofore. I thought this value was right because I was unable to get over the property and view it. When I looked at them old rolls I saw that the valuations was about the same all through and I was unable to change much those valuations because I wasn't able to go there and see the property. The valuations which I placed on this property which I was not able to see were substantially the same as had been placed on this property in the other assessment rolls." (R. 71, 72.)

"With reference to the property which I had not seen and which I did not know anything about, I was perhaps just making the roll as it had usually been made before. I was unable to know what there was on the land. I did not have time to make a personal examination. I had only a little more than a month within which to make the whole assessment roll. No man has time to look over our township in such a short time and know all that is in it." (R. 73.)

On cross-examination the witness testified:

"In examining the assessment rolls which I examined before making up my tax roll in 1911,

> I examined some of the rolls which Mr. Walton had made out. There was not much difference between the assessments which he had put upon lands and property in general and the assessment which I placed upon property in 1911. * * * *
>
> "Q. And during all the time while he was supervisor, was the property in the township assessed year after year at substantially the same figures?
>
> "A. The way those rolls shows, pretty close to it, yes. From the old assessment rolls I should say that property in the township was assessed year after year at substantially the same figures." (R. 81.)

It appears that the assessment roll, prepared as above stated, was taken to the Board of Review for Gogebic County and except some slight changes was left as prepared by Supervisor Simonson. (R. 73).

Until after the meeting of the Board of Review confirming the assessment roll for 1911, Simonson had never visited Townships 47-44, 48-44, 49-45 and 50-45, which are included in Wakefield Township (R. 72, 73) and contain valuable timber land. (R. 73). His personal knowledge of the value of property in Wakefield Township was confined to surveyed Township 47-45 in which he resided, and to the townships nearby. (R. 72, 73).

In the summer of 1911 after the assessment for that year had been made, and after the meeting of the Board of Review Simonson made trips extending into all of the surveyed townships except Township 49-40, saw the timbered land and reached the conclusion that this property had not been assessed at its full value on the roll for 1911. (R. 73, 74).

Simonson testified upon this subject as follows:

> "After I had completed the work of making this roll in 1911 I then began to make a personal examination of the township. During almost the entire summer I made trips into the woods and looked over the timber lands and the timber properties. At different times I went out looking over some of these lands. I was re-elected supervisor in April,

1912, and I prepared the roll of that year. Prior to the time when I began the roll for 1912 I had been in all of the townships except that I am not all the surveyed townships except Township 49, range 40. That's right near the lake. I was in all the surveyed townships except townships 49, Range 40. During my visits I came to the conclusion that this land was good land. It was good land and the majority of it had good timber on it. The majority of that land is good farming land. I found some pretty fair timber lands. I made a sufficient investigation so that I could form a general conclusion as to whether this land had been assessed correctly or not. I was of the opinion that it had not been assessed enough in 1911." (R. 73).

"Q. Go on and state in a general way what you did and what conclusions you reached there?

"A. I went out to find out about this land and how that land looked and how it is timbered. I made those trips on purpose to find it out. After I made those trips in different directions I came to the conclusion that the land was not valuated enough.

"Q. State whether or not this land which you reached the conclusion was not valued enough was the same property which you had put on the roll in 1911 at substantially the same figures as the other rolls?

"A. It was practically the same territory. * *

"Q. Did you reach any general conclusion as to how much more? I will ask you about some of this later. I am asking you now if you reached a general conclusion as to how many times more or how much more it was worth than the figure you put on it in 1911.

"A. The 1912 assessment roll shows that pretty close. The book which you now show me is the assessment roll for 1912." (R. 74).

The witness also testified on cross-examination:

"After I made the assessment in 1911, and after the Board of Review had met, I came to the conclusion that certain of this property and a large part of it was under-valued in 1911. I made all my investigations to which I have testified and which caused me to change my opinion as to the value of

property after the second meeting of the Board of Review in 1911. I made them all afterwards because I didn't have time before." (R. 82, 83).

The witness testified in the same manner on p. 121. Illustrating the general under-valuation in 1911 the witness proceeded to give numerous special instances. (R. 74 to 79 inc).

On p. 76 the witness said:

> "The facts which I have given in regard to these forties" (the special illustrations above referred to) "are generally true of all the changes I made in making up the roll of 1912; in other words, where I made these increases it was the result of this later investigation I made and the changes represent my opinion of the true cash value of the property."

The witness also illustrated the conditions by various other statements. On p. 79 he said:

> "Referring again to the farm property and timber land outside of the Village of Wakefield, the property was worth according to its true cash value in 1911 the amount I assessed against it in 1912. I do not believe I made any over-assessment on any of the farming property."

The extent of the under-assessment of property generally in 1911 is shown by Exhibit 12 (R. 186, 187) together with the testimony of Simonson in connection with this exhibit. The list of property contained in this exhibit was selected by him as showing a representative fair average indicating the valuations as assessed in 1911 and raised in 1912. (R. 123).

Referring to this exhibit and the property therein specified the witness testified on p. 76:

> "Q. I hand you a sheet containing a tabulation covering a number of descriptions of property in every surveyed township in the Township of Wakefield and I will ask you if you have checked that statement with the rolls of 1911 and 1912 so that you know whether or not it is correct and corresponds.
>
> "A. I did check this over yesterday and also another list with this. * * * *

"Q. I will ask you to state whether or not these descriptions which we have referred to on this sheet and which consist of eight or ten from each surveyed township, each of them being in different sections were fairly representative of the difference between your assessment in 1911 and your assessment in 1912?

"A. I think it is."

Mr. Simonson was re-elected Supervisor and made up the roll for the year 1912. He says there was no material change in the value of general property in Wakefield Township between 1911 and 1912 and that the property was in substantially the same condition. (R. 77). Where there were changes, as in connection with village property, he calls attention to such items. (R. 77, 78).

Exhibit No. 12 together with the testimony shows that the real value of general property in Wakefield Township as determined by Mr. Simonson from a careful investigation of its real value in 1912 was from two to three and even six or more times as much as the valuations placed by him on the same property in substantially the same condition in 1911 and without any real change of value. (R. 75, 76, 79, 122, 123).

That the Board of State Tax Commissioners did not think that Simonson over-estimated the value of property in Wakefield Township (in 1912) is shown by the fact that, after making a thorough investigation which began in January 1912 (R. 83) through their own field men, that board raised generally throughout Wakefield Township the assessed valuations made by Simonson to amounts ranging from two to eight times the valuations so placed upon such property by him. This fully appears in the final column on plaintiff's Exhibit 12. Indeed, a comparison of the valuations so made by the Board of State Tax Commissioners in 1912 with the valuations placed upon the same property in 1911 shows that property generally (other than the iron mines) throughout

Wakefield Township was assessed in 1911 at not much over one-sixth of its value.

Illustrating this general under-assessment in 1911, we call attention to nine forties, owned by five different persons. in Sections 10, 16 and 18, 47-45, which were assessed in 1911 by Mr. Simonson at a total amount of $1,000, and were fixed by the Board of Review at a total amount of $1,150. The same descriptions were assessed by Simonson in 1912 at $5,050, were changed by the Township Board of Review to $5,450 and were then assessed by the Board of State Tax Commissioners at a total of $11,500. The Northeast Quarter of the Northeast Quarter of Section 1, Township 47-45, owned by the Keweenaw Land Association, which was assessed in 1911 for $300, was raised by Simonson in 1912 to $700 and again raised in 1912 by the Board of State Tax Commissioners to $2,225. The Northwest Quarter of the Southeast Quarter of the Southeast Quarter of Section 4, 47-44, owned by the Tula Lumber Company was assessed in 1911 for $100, raised by Simonson in 1912 to $550 and again by the Board of State Tax Commissioners to $1,450. These are but instances of the general condition shown by Exhibit 12 and are typical of the entire roll as shown by the testimony of Simonson. (R. 76, 77, 122, 123).

Mr. Simonson also made numerous changes in the personal assessments of 1912 for the same reason. (R. 78, 79). The personal property of the Tula Lumber Company was raised from $1,000 in 1911 to $15,000 in 1912. Skud & Goldman were raised from $3,000 to $7,000. (R. 78, 79). The Wakefield Store Co. was raised from $3,000 to $5,000 and numerous other changes of this character were made. (R. 78). It is true, that in some instances Mr. Simonson says that there had been some changes in the stocks on hand but the evidence as a whole clearly shows that the personal property was largely under-assessed in 1911. There is a bank in Wakefield Township (R. 78, 79) but in 1911 no assess-

ments whatever were included on the roll for bank deposits. (R. 79).

The testimony of Supervisor Simonson was corroborated as to the value of timber lands and farms and as to the existence of business property and stocks of goods in said taxing district, all of which would be subject to taxation under the laws of the State of Michigan. (R. p. 150, 151, 156, 157).

The amount of the plaintiff's taxes upon this large assessment was $29,175.50 (R. 79, 80), and adding collection fees it amounted to $31,910.45.

On January 9th plaintiff paid these taxes under protest, a written copy of the protest appearing in the record (p. 188, 189), and in due time this suit was brought under the statute in such case made and provided to recover the taxes so paid under protest.

At the end of the plaintiff's case the defendant entered a motion to direct a verdict in its favor, which motion was denied. (R. 167, 168). The defendant then rested without introducing any evidence whatever and thereafter renewed the motion to direct a verdict. (R. 167, 168). The plaintiff also entered a motion to direct a verdict in its favor. (R. 168). These motions were argued at length (R. 174, 175), and at the conclusion of the argument the Circuit Judge entered a verdict in favor of the defendant. (R. 175).

In passing upon these motions, the trial court assumed as established that property generally in the taxing district was undervalued as claimed and that such fact was brought to the attention of the Board, but justified and held to be legal the action of the Board in holding the review in question and making the discriminatory assessment on account of the lack of time to hold a general review. (R. 176, 180).

This case was removed to the Michigan Supreme Court, and the opinion of that court is found in the record at page 288.

SPECIFICATION OF ERRORS RELIED UPON.

The Supreme Court of the State of Michigan committed error as follows:

1. In refusing to hold that upon the undisputed evidence the action of the taxing boards and authorities of the State of Michigan, in raising and assessing the plaintiff's mining property at more than its actual value in the year 1911, while knowingly and intentionally leaving other property generally in the same taxing district assessed for taxation at less than one-third of its value, and in compelling the plaintiff to pay taxes upon its said property on such relative basis,—amounts to taking its property without due process of law, and denies to it the equal protection of the laws, in violation of the 14th amendment of the constitution of the United States.

2. In refusing to hold that upon the undisputed facts the trial court erred in directing a verdict for the plaintiff, in overruling the plaintiff's motion for a directed verdict, and in entering judgment against the plaintiff.

3. In entering judgment against the plaintiff in error and in favor of the defendant in error .

ARGUMENT

THE ACTION OF THE STATE BOARDS AND AUTHORITIES OF THE STATE OF MICHIGAN CONSTITUTES A VIOLATION OF THE PLAINTIFF'S RIGHTS UNDER THE 14TH AMENDMENT TO THE CONSTITUTION OF THE UNITED STATES

The action of the state boards and authorities of the State of Michigan, here complained of, denied to the plaintiff the equal protection of the laws of Michigan and resulted in taking its property without due process of law.

The evidence as to the facts stands undisputed on the

record. The plaintiff claims, and will hereinafter show, that in assessing its mines here in question for taxation, the state boards and officers refused to apply the standards prescribed by the law of that state, which were applied to other property generally of the state and said taxing district, and raised the assessed valuation of plaintiff's property to more than 100 per cent. of its value,—while they intentionally, and with knowledge of the facts, left the other property of said taxing district generally assessed at less than 33 per cent. of its valuation. When the facts were shown to the taxing boards and officers, they refused all remedy and left the plaintiff compelled to bear an unequal proportion of taxes, and collected the excess, notwithstanding the plaintiff's protest.

The general scheme of taxation of the State of Michigan, with the plan for applying and enforcing the same, is outlined by the constitution and laws of that state, under which a system is provided by which all property is required to be taxed on a valuation which shall be relatively just and equal.

The Constitution of Michigan, adopted in 1908, contains the following provision:

> "Article X, Sec. 3. The legislature shall provide by law a uniform rule of taxation, except on property paying specific taxes, and taxes shall be levied on such property as shall be prescribed by law: Provided, That the legislature shall provide by law a uniform rule of taxation for such property as shall be assessed by a state board of assessors, and the rate of taxation on such property shall be the rate which the state board of assessors shall ascertain and determine is the average rate levied upon other property upon which ad valorem taxes are assessed for state, county, township, school and municipal purposes."

The general tax laws of Michigan specify the rule for the assessment of property, including all general property not within the jurisdiction of the State Board of Assessors above mentioned.

Section 24 of the Tax Laws (1 Howell's Stat. 786) provides as follows:

> "On or before the first Monday in June in each year, the supervisor or assessor shall make and complete an assessment roll, upon which he shall set down the name of every person liable to be taxed in his township or assessment district. with a full description of all the real property therein liable to be taxed. * * * The supervisor shall estimate, according to his best information and judgment, the true cash value of every parcel of real property and set the same down opposite such parcel. He shall also estimate the true cash value of all the personal property of each person, and set the same down opposite the name of such person."

By Section 27 the words "cash value" are defined as follows:

> "The words 'cash value' whenever used in this act, shall be held to mean the usual selling price at the place where the property to which the term is applied shall be at the time of assessment, being the price which could be obtained therefor at private sale, and not at forced or auction sale. In determining the value the assessor shall also consider the advantage and disadvantages of location, quality of soil, quantity and value of standing timber, water power and privileges, mines, minerals, quarries or other valuable deposits known to be available therein and their value."

After the roll has been made up in the first instance by the supervisors, it is then subject to review by the local Board of Review of the township, following Sections 28 to 33 of the Tax Laws. By Section 29 it is provided:

> "Sec. 29. On the Tuesday next following the first Monday in June, the board of review of each township shall meet at the office of the supervisor, at which time the supervisor shall submit to said board the assessment roll for the current year, as prepared by him, and the said board shall proceed to examine and review the same, and during that day, and the day following, if necessary, said board, of its own motion, or on sufficient cause being shown

by any person, shall add to said roll the names of persons, the value of personal property, and the description and value of real property liable to assessment in said township, omitted from such assessment roll; they shall correct all errors in the names of persons, in the descriptions of property upon such roll, and in the assessment and valuation of property thereon, and they shall cause to be done what ever else may be necessary to make said roll comply with the provisions of this act. The board shall pass upon each valuation and each interest, and shall enter the valuation of each, as fixed by it, in a separate column. The roll as prepared by the supervisor shall stand as approved and adopted as the act of the board of review, except as changed by a vote as herein provided. If for any cause a quorum does not assemble during the days above mentioned, the roll as prepared by the supervisor shall stand as if approved by the board of review."

By Section 30 it is provided:

"Sec. 30. Said board of review shall also meet at the office of the supervisor on the second Monday in June at nine o'clock in the forenoon, and continue in session during the day and the day following; Such board shall continue its sessions at least six hours each day, and at the request of any person whose property is assessed thereon or of his agent, and on sufficient cause being shown, shall correct the assessment as to such property, *in such manner as in their judgment will make the valuation thereof relatively just and equal* * * * *."

Provision is then made for fixing the rate of taxation and apportioning and equalizing the entire taxes among the various political sub-divisions of the state, and by Section 39 it is provided:

"The supervisor of each township or ward, and the assessing officer of each city or village, as provided by law, shall proceed to assess the taxes apportioned to his township, or assessment district, according and in proportion to the valuations entered by the board of review in the assessment roll of the township, ward, village or city of the year: *Provided*, That if the board of review make no such

entry, then on the valuation therein as entered by the supervisor or assessor."

In addition to the provisions for assessors or supervisors and boards of equalization, with the duties hereinbefore referred to, the laws of Michigan at the time in question, and now, provide in Section 145 of the tax law:

> "It shall be the duty of the Governor on the first day of November, nineteen hundred five to appoint three resident freeholders of this State, who shall be duly qualified electors thereof, and who shall hereafter constitute a Board of State Tax Commissioners with powers and duties as prescribed under this act, * * *."

Then follows provision for the appointment of the successors to said board and the various members of the same.

By Section 150, the jurisdiction and duties of said board of State Tax Commissioners are, in part, provided as follows:

> "First, it shall be the duty of said board to receive all complaints as to property liable to taxation that has not been assessed, or that has been fraudulently or improperly assessed, and to investigate the same, and to take such proceedings as will correct the irregularity complained of, if any is found to exist."

By Section 152 the following sweeping provision is made:

> "After the various assessment rolls required to be made under this act or under the provisions of any municipal charter shall have been passed upon by the several boards of review, and prior to the making and delivery of the tax rolls to the proper officer for collection of taxes, the said several assessment rolls shall be subject to inspection by said Board of State Tax Commissioners or by any member thereof; and in case it shall appear after investigation by said board, or be made to appear to said board by written complaint of any taxpayer, that property subject to taxation has been omitted from said roll, or individual assessments have not been made in compliance with law, the said board may issue an order, directing the assessor whose assess-

ment or failure to assess is complained against, to appear with his assessment roll and the sworn statements of the person or persons whose property or whose assessments are to be considered at a time and place to be stated in said order, said time to be not less than seven days from the date of the issuance of said order, and the place to be at the office of the board of supervisors at the county seat, or at such other place in said county in which said roll was made as said board shall deem most convenient for the hearing herein provided. A copy of said order shall be published in a newspaper published at the county seat of said county, if there be one, if not in some paper printed in said county, if there be any, at least five days before the time at which said assessor is required to appear; and where practicable personal notice by mail shall be given prior to said hearing to all persons whose assessments are to be considered. A copy of said order shall also be served upon the supervisor or assessing officer in whose possession said roll shall be at least three days before he is required to appear with said roll. The said board, or any member thereof, shall appear at the time and place mentioned in said order, and the supervisor or assessing officer upon whom said notice shall have been served shall appear also with said assessment roll. The said board or any member thereof, as the case may be, shall then and there hear and determine as to the proper assessment of all property and persons mentioned in said notice, and all persons affected or liable to be affected by review of said assessments thus provided for may appear and be heard at said hearing. In case said board, or the member thereof who shall act in said review, shall determine that the assessments so reviewed are not assessed according to law, he or they shall, in a column provided for that purpose, place opposite said property the true and lawful assessment of the same. As to the property not upon the assessment roll, the said board, or member thereof acting in said review, shall place the same upon said assessment roll by proper description and

shall place thereafter, in the proper column, the true cash value of the same. Said board shall also spread upon said roll a certificate, signed by each member, officiating at the review proceedings, showing the day and date on which said assessment roll was reviewed. For appearing with said roll as required herein the supervisor or assessing officer shall receive the same per diem as is received by him while in attendance at the meeting of the board of supervisors, to be presented to and paid by the proper officers of the municipality of which he is the assessing officer in the manner as his other compensation is paid. The action of said board or member done as provided in this act shall be final. When any property has been reviewed, assessed and valued by said board as herein authorized, such property shall not be assessed or valued at a lower figure within a period of three years, where the property remains substantially the same, without the written consent of said board."

The constitution and laws of Michigan thus place all classes of property on a parity, so that for the purpose of assessment and taxation, iron mines and other real estate and personal property, are by express statute placed in the same class, and required by the same rule to be assessed, and at the same ratio of value, so that all such assessment shall be relatively just and equal.

The general plan and scheme of taxation is based upon the principal of uniformity, and of relative equality among taxpayers; and the Board of State Tax Commissioners is given final authority in fixing the valuation and assessments of property for taxation.

The plaintiff in error claims that in assessing its mining property in the year 1911, the constitutional and statutory provisions requiring relative equality in assessment and taxation were disregarded and violated, and that it was by such illegal means compelled by the authorities of the State to pay more than its just proportion of taxes.

FACTS RELATIVE TO ASSESSMENTS HERE COMPLAINED OF.

As we have hereinbefore shown, at the conclusion of the evidence offered in behalf of the plaintiff below, the defendant rested its case and moved for a directed verdict. The evidence therefore offered by the plaintiff stands undisputed and practically conceded for the purposes of this case.

It appears from the record that for many years prior to 1911, the property in Wakefield Township had been assessed at substantially the same figures as the valuations placed upon the tax roll by the assessing officer in 1911, namely, at from one-sixth to one-third of its actual cash value. The supervisor immediately preceding Mr. Simonson was Mr. Neidhold, (R. 80). His predecessor was Mr. Walton, (R. 81). Walton was supervisor of this township for three years, covering first a period of two years, after which he was out of office for two years, and then he was again supervisor the year before Neidhold, (R. 83). This covers a period of five years prior to 1911.

The testimony of supervisor Simonson in reference to the assessments in Wakefield Township appears on page 81 of the record:

> "In examining the assessment rolls which I examined before making up my tax roll in 1911, I examined some of the rolls which Mr. Walton had made out. There was not much difference between the assessments which he put upon lands and property in general and the assessments which I placed upon property in 1911. * * *
>
> Q. During all the time while he, (Walton), was supervisor, was the property of the township assessed year after year at substantially the same figures?
>
> A. The way those rolls shows pretty close to it, yes. From the old assessment rolls, I should say that property in the township was assessed year after year at substantially the same figures."

That Simonson followed the previous custom is shown conclusively by his testimony in chief, (R. 72):

> "I went to work and looked over several of these old assessment rolls. I based my opinion upon the valuations which has been placed on property heretofore. I thought this value was right because I was unable to get over the property and view it. *When I looked at them old rolls I saw that the valuations was about the same all through, and I was unable to change much those valuations because I wasn't able to go there and see the property.*"

Since it does not appear that any complaint was made as to those past assessments, it is a fair inference that during those years all classes of property were assessed at substantially the same proportion of their value. That the property generally in Wakefield Township was systematically underassessed also appears beyond question. We do not here repeat the evidence which is set forth in our statement of facts, but it stands undisputed that the property generally was not assessed to exceed from one-sixth to one-third of its real value during any of the time, and much of the personal property was not assessed at all. We are therefore justified by the evidence in the statement that the practice of assessing property generally within said tax district at amounts representing only a comparatively small proportion of its true cash value, had become an established custom. The record also shows that this was probably true of the whole of Gogebic County, and of large parts of the State of Michigan.

We claim that these facts were well known, not only to the local assessing officers, but to the Board of State Tax Commissioners, at the time when the first meeting of the State Board was held at Bessemer on the 2nd of October, 1911. Indeed the commissioner who presided at that meeting frankly admitted his knowledge of such custom and condition. (R. 25, 26).

This brings us to a consideration of the assessment of

the mines. It appears from the record that up to 1911 mining property had been assessed in the same general manner as had all other property of the state. Indeed the assessment roll in Wakefield Township as prepared by supervisor Simonson for 1911, placed mining property on relatively the same basis as all other property.

We have hereinbefore shown by quotation of the statutes that the Board of State Tax Commissioners had ample and plenary powers sufficient to enable that board to take any steps which were reasonable or necessary in its judgment to determine the value, and proportionately to assess any class of property within the state, whether mining property or otherwise. Nothwithstanding this fact, in the year 1911, the legislature of Michigan provided by Act No. 114 of the Public Acts of that year for obtaining a special appraisal of the valuation of mining property throughout the State (R. 14, 15). By the terms of the Act the state board was required "to investigate, examine into, inventory and appraise all mining properties in the State of Michigan and all mineral rights which are subject to taxation." In view of the broad powers of the State Tax Commission, no such special authority was necessary.

Acting under the authority of the above Act, the Board of State Tax Commissioners employed James R. Finlay of New York City to supervise and direct the making of this appraisal. Mr. Finlay received his appointment May 24th, 1911, and by August 18th, 1911, placed in the hands of the state board an appraisal of the mines of Michigan, and purported therein to give his appraisal and valuation of all the individual mines in the various counties of the state. His scheme of appraisal was unique and unusual, as appears from a copy of the same, attached to the record, and it is sufficient in this connection to say that it never has been applied to any other class of property in the state.

After receiving the report of Mr. Finlay, the Board of

State Tax Commissioners on September 21, 1911, gave notice that hearings would be held in the Townships of Bessemer and Wakefield, of Gogebic County, to review the assessments of certain mines, naming therein the owners of those mines. It will be observed, however, that the notice concluded with the statement that such action would be taken at the time and place mentioned, "as will correct the irregular and unlawful assessments that may be found to exist." (R. 16). It is important to note also that the order directed the supervisors of the Townships of Bessemer and Wakefield to appear in the court house in Bessemer on Monday, October 2nd, 1911, and bring with them the assessment rolls for their respective townships, and further recited that at the time and place mentioned in the order "said assessment rolls as aforesaid, shall be subject to review, and that all persons interested therein shall be heard." The board, however, limited its inquiry to one class of property only, namely iron mining properties.

The plaintiff in error was represented at this meeting by counsel and by its officers. The official transcript of the record of the meeting bearing upon this case has been offered in evidence. Mr. Belden, the attorney for the plaintiff in error, appeared, and made the following statement in behalf of the plaintiff, (R. 20, 21):

> "I wish to call your attention to another phase of this question. If we were to assume here that the estimate proposed by Mr. Finlay simply represented the actual cash value of these mines, there is still another strong reason why this Board ought not at this time and under the circumstances which I shall relate, to assess the mines at what you might consider their actual cash value, even though you determined that to be an amount the same as Mr. Finlay's or different; it is immaterial. I am informed reliably, and believe, that other property in Wakefield Township is generally assessed at a rate not exceeding 33 1-3 per cent. of its real value, and if this Board feels that it can appoint a time and

place to permit proof of the statement which I am making, I shall be prepared to make such proof, and in behalf of these companies I desire to here enter a complaint before this Board that such property is grossly under-valued and generally under-assessed throughout the township and that it ought to be raised to its full cash value, and I will file with this Board later in the day a written statement of this complaint, showing the grounds for it, and present it as the statute requires. I wish to bring to your attention sharply the injustice of raising one class of property suddenly to its full cash value of 100 per cent. when other property in the taxing district where it is located is assessed at only about one-third of its value. Our Supreme Court has held that such assessments amount to a virtual fraud—I am not using the word in an offensive sense, but I mean legally—upon the party thus raised to the full value of his property.

I wish also to assert the claim before this Board that property generally in Gogebic County is under-assessed and under-valued, and that such property throughout the county is not assessed—I am referring to property other than mines—in excess of 40 per cent. of its real value, and if this Board could set a time and place for hearing proof of that matter, we offer to bring such facts to your attention."

The plaintiff in error also joined with the Verona Mining Company and the Brotherton Iron Mining Company in the following formal written protest, which was filed with the board, including therein the offer to present proofs of the facts relative to the assessment of property generally in Wakefield Township:

"EXHIBIT 3.

To the Board of State Tax Commissioners of Michigan:

The undersigned, the Verona Mining Company, the Sunday Lake Iron Company, and the Brotherton Iron Mining Company, all corporations organized and doing business under the laws of Michigan, and tax-payers in the Township of Wakefield,

County of Gogebic, and State of Michigan, represent to this Honorable Board, this day in session in the Court House at the City of Bessemer, in said county and state, that real and personal property, other than the iron mining properties, located in the Township of Wakefield, in said county and state, are generally under-valued and under-assessed by the assessing officers of said township, and that large amounts of such property, subject to taxation under the laws of Michigan, are entirely omitted from the tax rolls in said township, and that the undersigned offer to present proofs thereof to this Board at such time and place as it shall appoint, that such real and personal property in said Township of Wakefield is assessed at only one-third of its true cash value; and the undersigned do formally complain that such assessments are erroneous, unjust and inequitable, and hereby request this Honorable Board to review and correct such assessments and omissions in accordance with the tax laws of the State of Michigan.

Dated at Bessemer, Michigan, this 2nd day of October, 1911.

VERONA MINING COMPANY,
C. H. Munger, Gen. Mgr.

SUNDAY LAKE IRON COMPANY,
C. H. Munger, Gen. Mgr.

BROTHERTON IRON MINING CO.
C. H. Munger, Gen Mgr."

We here again call attention to the statements made officially in that meeting by Mr. Shields, the member of the Board of State Tax Commissioners in charge of, and who conducted the hearing in question. This statement appears on pages 25 and 26 of the record:

> "MR. SHIELDS: If we had the same detailed information as to valuation of all other property in these different counties, and had the time, we would have had a general hearing. If we had the general data and the time to cover all these properties, we would have had a general review."

Mr. Shields thereupon proceeded to enlarge upon this statement and then continued.

"We have knowledge of low assessments in practically every assessing district in the state, but it would be physically impossible to have hearings in every district in the state."

After certain other statements, the following occurred: (R. 26).

"MR. BELL: You were satisfied, were you not, from the information you did have that properties in these counties (the iron mining counties) outside of the mining property was not assessed at full value?

MR. SHIELDS: Yes, there was no qestion about that."

With particular reference to Wakefield Township, the record also shows that supervisor Simonson of that township was present in the court room at the above hearing, with the assessment roll of the township, and with personal knowledge gained from trips and investigations made by him of property generally throughout Wakefield township, which confirmed in all respects the statements and claims made by the plaintiff relative to the under-assessments of property in that township. His information and knowledge was so complete at that time, that he would have been able to give testimony at that hearing of facts sufficient to have enabled the State Board to deal with all classes of property equally, had the State Board been so disposed.

The Board refused however, to take up the question of the assessment of any other than mining property, and against the protest of the plaintiff in error, raised the value of its mines from $65,000, the amount for which they had been assessed, to the sum of $1,072,000—or more than fifteen times the amount of the original assessment—but leaving all other property assessed for that year on the old basis of not more than one-third to one-sixth of its former value.

The Board did not attempt to deny the under-valuation of property generally in the tax district; on the contrary, knowledge of this fact was expressly admitted. The only

excuse which was offered for its action was the lack of time in which to conduct a general review. In other words, that lack of time warranted a disregard of the requirements that the assessment of property must be relatively equal.

Even if we assume that the plaintiff's property was in fact worth the amount of the assessment placed upon it, (and the record clearly shows that this was not the case), the action of the State Board under the above circumstances in raising the assessment of the plaintiff's property, but refusing at the same time to raise the assessment of other property in like proportion, of itself constitutes a fraud upon the rights of the plaintiff. The Board violated the law, with the result which it could not fail to anticipate, of wrongfully and unjustly taking from the plaintiff, in the form of taxes, a large amount of money which it should not have been required to pay.

The plaintiff in error was thus denied the equal protection of the laws of the State of Michigan and its property was taken without due process of law.

We will now consider the decisions of the courts with respect to such discrimination by taxing authorities.

THE LAW.

The holding is uniform that a person may be denied the equal protection of the law, and his property may be taken without due process of law as well by the action of state boards and tribunals or state agents *administering the law,* as by the action of the legislature in adopting statutes which in plain terms contravene such constitutional rights.

Scott vs. McNeal, 154 U .S. 34.
C. B. & Q. R. Co. vs. Chicago, 166 U. S. 226.
Raymond vs. Chicago Traction Co., 207 U. S. 20.
Railroad & Telephone Companies vs. Board of Equalizers, 85 Fed. Rep. 302.

Lively vs. Mo. K. & T. R'y. Co. of Texas, 120 S. W. 852 (Texas).

Central R'y. Co. vs. Mayor et al, 199 Fed. 237.

Nashville C. & St. L. R'y. vs. Taylor, 86 Fed. Rep. 168.

If, therefore, the action of the boards and taxing authorities of Michigan resulted in a denial to the plaintiff of the equal protection of the laws of that state, and in taking the plaintiff's property without due process of law—the taxation in question was in violation of the plaintiff's rights under the 14th amendment to the Constitution of the United States.

Under the constitution and laws of Michigan, all property is placed on a parity for taxation, and is required to be assessed and taxed on a basis which shall be relatively just and equal. It was therefore in violation of the rights of the plaintiff in error for the taxing boards and authorities of Michigan to raise the assessed value of the plaintiff's property up to 100 per cent. of its value, while at the same time knowingly and intentionally leaving all other classes of property generally assessed at but 33 per cent. of its value. The collection of taxes upon such unequal basis amounts to a denial to the plaintiff of the equal protection of the law of Michigan and the taking of its property without due process of law in violation of the Federal Constitution.

Raymond vs. Chicago Traction Co., 207 U. S. 20

Central R'y. Co. vs. Mayor, 199 Fed. Rep. 237.

Taylor vs. L. & N. R'y. Co., 88 Fed. Rep. 350. 362-4.

Railway & Telephone Companies vs. Board of Equalizers, 85 Fed. Rep. 302.

L. & N. R. Co. vs. Bosworth, 209 Fed. Rep. 380, 452 et seq.

Louisville Trust Co. vs. Stone, 107 Fed. Rep. 305.

Lively vs. Mo. K. & T. R'y. Co. of Texas, 120 S. W. 852 (Texas).

County of Santa Clara vs. Southern Pac. R. Co., 18 Fed. Rep. 385, 399.

Under like constitutions and laws, both federal and state

courts have repeatedly held that like proceedings on the part of state taxing boards and authorities were in contravention of the constitutional rights of the property owner.

Cummings vs. National Bank, 101 U. S. 153.
Trustees of Cincinnati Southern R'y. vs. Guenther, 19 Fed. Rep. 395.
Dundee Mortgage Trust Investment Co. vs. Parrish, 24 Fed. Rep. 197.
Dundee Mortgage & Trust Co. vs. Charlton, 32 Fed. Rep. 192.
A. T. & Santa Fe R'y. vs. Sullivan, 173 Fed. Rep. 456, 461.
Board of Supervisors vs. R'y. Co., 44 Ill. 229.
Railway Co. vs. Boone County, 44 Ill. 240.
Railway Co. vs. Board of Supervisors, 68 Ill. 458.
Randell vs. City of Bridgeport, 63 Conn. 321.
Railway Co. vs. Commissioners of Atchison County, 54 Kan. 781, 789.
Bank vs. Board of County Commissioners, 83 Kan. 376.
Ex Parte Bridge Co. 62 Ark. 461.

In *Raymond vs. Chicago Traction Co.*, 207 U. S. 20, the assessors of Cook County, Illinois, had assessed the property of the Traction Company upon a higher and different basis than was used in the assessment of the property of other corporations and individuals of the same general class for the same year, by reason of which the Traction Company was compelled to pay a higher proportion of the burden of taxation than such other persons or companies. This court held this to be in violation of the provisions of the Constitution of the United States prohibiting the taking of property without due process of law and prohibiting the state from denying to any person the equal protection of the laws. In passing upon the case, this court, by Mr. Peckham, said on page 35:

> "The claim that the action of the state board of equalization in making the assessment under consideration was the action of the state, and if carried out would violate the provisions of the 14th Amendment to the Constitution of the United States, by

taking property of the appellee without due process of law, and by failing to give it the equal protection of the laws, constitutes a Federal question beyond all controversy."

Also on pp. 35 and 36:

"Acting under the Constitution and laws of the state, the board therefore represents the state and its action is the action of the state. The provisions of the fourteenth Amendment are not confined to the action of the state through its legislature, or through the executive or judicial authority. Those provisions relate to and cover all the instrumentalities by which the state acts, and so it has been held that, whoever by virtue of public position under a state government, deprives another of any right protected by that amendment against deprivation by the state, violates the constitutional inhibition; and as he acts in the name of the state and for the state, and is clothed with the state's powers, his act is that of the state."

In *Louisville Trust Co. vs. Stone*, 107 Fed. Rep. 305, the court said on page 305:

"It may be conceded that. if the allegations of the bill are made out, there exists in respect to the property of complainant, and others similarly situated, a systematic, intentional, and illegal undervaluation of other property by the taxing officers of the state, which necessarily effects an unjust discrimination against the property of which the plaintiff is the owner, and a bill in equity will lie to restrain such illegal discrimination, and that in such cases federal jurisdiction will arise because of the equal protection of the laws guaranteed by the fourteenth amendment."

In *Central R. Co. of N. J. vs. Mayor*, 199 Fed. Rep. 237, where the cause of action was based upon facts similar to those in the case at bar, the court said on page 242:

"The failure of defendants to introduce any opposing evidence to that offered by complainant avoids the necessity of any extended summary of that offered. As to it, it is sufficient to say that it clearly established a well-defined, a systematic, plan

> persistently carried out by the city assessors, whereby they intentionally grossly underassessed the property of others within the city, and cast upon complainant a greater burden of taxation than its lawful and just share. This practice was in disregard of the constitutional mandate that 'property shall be assessed for taxes under general laws and by uniform rules according to its true value' (N. J. Const. Art. 4, Sec. 7, par. 12), and the general laws framed to effect such tax laws (3 Gen. Stat. N. J. 1895, pp. 3282, 3344, and P. L. 1903, p. 394), and is such a denial of the equal protection of the laws guaranteed by the fourteenth amendment to the Constitution of the United States, as to require this court to take jurisdiction and relieve the complainant from the unjust part of the proposed tax, regardless of the absence of diverse citizenship, or that a state court of equity has jurisdiction in the premises."

In *County of Santa Clara vs. Southern Pacific R. Co.*, 18 Fed. Rep. 385, the court said on page 399:

> "Unequal taxation, so far as it can be prevented, is, therefore, with other unequal burdens, prohibited by the amendment. There undoubtedly are, and always will be, more or less inequalities in the operation of all general legislation, arising from the different conditions of persons from their means, business, or position of life, against which no foresight can guard. But this is a very different thing, both in purpose and effect, from a carefully devised scheme to produce such inequality; or a scheme, if not so devised, necessarily producing that result. Absolute equality may not be attainable, but gross and designed departures from it will necessarily bring the legislation authorizing it within the prohibition. The amendment is aimed against the perpetration of injustice, and the exercise of arbitrary power to that end. The position that unequal taxation is not within the scope of its prohibitory clause would give to it a singular meaning. It is a matter of history that unequal and discriminating taxation, leveled against special classes, has been the fruitful means of oppressions, and the cause of more commotions and disturbance in society, of insurrec-

> tions and revolutions, than any other cause in the world. It would, indeed, as counsel in the *San Mateo Case* ironically observed, be a charming spectacle to present to the civilized world, if the amendment were to read, as contended it does in law: 'Nor shall any state deprive any person of his property without due process of law, *except it be in the form of taxation;* nor deny to any person within its jurisdiction the equal protection of the laws, *except it be by taxation.*' No such limitation can be thus ingrafted by implication upon the broad and comprehensive language used. The power of oppression by taxation without due process of law is not thus permitted; nor the power by taxation to deprive any person of the equal protection of the laws."

In *Lively vs. Mo. K. & T. R'y. Co. of Texas,* 120 S. W. 862, it appeared that the plaintiff was assessed at a different rate on its intangible assets from the rate usually applied to other property in the same county, although the Constitution and laws of Texas required uniformity. The record in this case showed that property generally in the county was assessed at 66 2/3 per cent. of its real value, whereas the property of the Railway Company was placed on the roll at one hundred cents on the dollar. This was held contrary to the State Constitution and to the 14th Amendment to the Federal Constitution. The court says on page 856:

> "The facts certified show that the assessment of the property of the people of Dallas county and the assessment of the intangible assets of the appellee were not made according to the same rule or standard of value, and appellee was denied, by such action of the officers, the equal protection of the constitution and laws of the state, contrary to and in violation of the above-quoted section 1 of the 14th amendment to the Constitution of the United States. It is apparent that the facts show a deprivation of the same right which is secured by both state and federal constitutions, therefore decisions by the courts, whether based upon the 14th amendment or

upon provisions of the state constitution similar to ours are equally applicable to this case. * * * *

It was the deliberately adopted policy to so discriminate between the different classes of property in the assessment for taxation. It is not necessary that the officers in so discriminating should have intended specifically to injure the appellee or other railroad companies. It is sufficient that by their action they denied the appellee the equal protection of the constitution and laws of the state. The intention with which the acts were done is of no consequence. Such deliberate action on the part of officers charged with the enforcement of the law must be held to be the act of the state, and the appellee was entitled to relief against enforcement of the excessive assessment."

To the same effect are *Mo. K. & T. R'y. Co. of Texas vs. Kone,* 122 S. W. 424, and *Langley vs. Smith.* 126 S. W. 660, both following the Lively case.

In *Trustees of Cincinnati Southern Railway vs. Guenther,* 19 Fed. Rep. 395, the court had under consideration the provision of the constitution of Tennessee requiring uniformity, which was violated by assessing a railroad company at full value, and the property of other owners at about 75 per cent. of its value. The court said on page 398:

"There will of necessity be many instances in which property will be assessed at more than its value, and more, perhaps, in which it will be assessed at less than its value. These errors and discrepancies will not vitiate the tax; they are inevitable. *But a different result follows should a standard of valuation be used for one species of property which is different from that used for another. If the end reached necessarily is the taxation of the one species higher than the other.* * * * * *It does not distinctly appear what rule was adopted in the valuation of lands, but it is clear that it was not intended to assess them at their real value, but below it; nor were they assessed, as a rule, according to their cost. It is equally clear that it was intended to assess railroad property at its full value, and that in doing so there was fixed upon it an exaggerated and*

> *unreasonable valuation.* This difference was not accidental. It follows from this intentional inequality that the complainants are entitled to relief."

In *Dundee Mortgage Trust Investment Co. vs. Parrish,* 24 Fed| 197, plaintiff alleged that its mortgages were assessed at face value while real estate in the same counties was assessed at only one-third of its value contrary to the provisions of the constitution of Oregon requiring uniform taxation. Referring to the contention of defendants that inasmuch as it did not appear that the unequal assessment complained of was deliberately intended, there was no violation of the constitutional provision, the court said on p. 202:

> "But it is not necessary that there should be any actual conspiracy, or expressed design to disregard the law in this respect, on the part of the assessor to render an assessment illegal. Whenever the assessor of a district of a county as large as one of these counties uniformly estimates real property at only one third of the value he places on mortgages, it is impossible to attribute the result to the infirmity of human judgment, and the only conclusion possible in the premises is that it was deliberately and wilfully done in pursuance of a settled purpose or rule on his part."

In this case the court cited and followed *Cummings vs. National Bank,* 101 U. S. 153, where it appeared that bank stock in Toledo, Ohio, was assessed at about three-fifths of its value whereas other property was assessed at about one-third of its value, although the constitution of Ohio required uniform taxation. The Supreme Court held that such assessment was void, and said on page 157:

> "We are of the opinion that when a rule or system of valuation is adopted by those whose duty it is to make the assessment, which is designed to operate unequally and to violate a fundamental principle of the constitution, and when this rule is applied not solely to one individual, but to a large class of individuals or corporation, that equity may properly interfere to restrain the operation of this unconstitutional exercise of power. That is pre-

cisely the case made by this bill, and if supported by the testimony, relief ought to be given."

In *Taylor vs. L. & N. R'y.* 88 Fed. Rep. 350, the court had under consideration a case where real estate generally in Tennessee was assessed at only 75 per cent. of its true value, while the railroad in question was assessed on a 100 per cent. basis and this discrimination was alleged to be a violation of the constitutional provisions of the State of Tennessee requiring uniformity. The Circuit Court of Appeals for the Sixth Circuit, speaking through Taft, J.. said on page 364:

> "The sole and manifest purpose of the constitution was to secure uniformity and equality of burden upon all the property in the state. As a means of doing so (conceding that the defendant's construction is the correct one), it provided that the assessment should be according to its true value. It emphasized the object of the section by expressly providing that no species of property should be taxed higher than any other species. We have before us a case in which the complaining taxpayer, and other taxpayers owning the same species of property, are taxed at a higher rate than the owners of other species of property. *This does not come about by legislative discrimination, but by the intentional and systematic disregard of the law by those charged with the duty of assessing all other species of property than that owned by complainant and its fellows of the same class. This is a flagrant violation of the clause of the constitution forbidding discrimination in taxation between different species of property.*"

In *Railroad Co. vs. Board of Supervisors,* 68 Ill. 458, the Court held that:

> "Under the constitutional provision requiring that taxes shall be uniform where the property belonging to individuals in a county has been assessed at less than its actual value, railroad property in the same county must not be assessed at any greater per cent. of its value. The proportion the assessment bears to the actual value must be uniform upon every species of property, whether owned by natural persons or corporations."

Thus by an unbroken line of decisions the violation of the rights of an individual by discrimination in assessment and taxation is condemned. That the State of Michigan, through its board and agencies violated the plaintiff's constitutional rights is clear. The plaintiff in error therefore should be entitled to a remedy protecting its rights and restoring to it its property.

There remains for consideratoin only the position taken by the state courts below in justification of the action of the taxing authorities and in refusing to grant to the plaintiff in error the remedy which it there sought.

EXCUSE AND JUSTIFICATION OF THE TAX COMMISSION FOR ITS ACTION DISCRIMINATING AGAINST THE PLAINTIFF'S PROPERTY— FINDINGS AND OPINIONS OF STATE COURTS BELOW REFUSING RELIEF.

We have hereinbefore pointed out that the evidence at the trial showed that the only justification or excuse offered by the State Board for increasing the valuation of the plaintiff's property, but leaving other property generally untouched, was a lack of time within which to hold a general review.

The plaintiff also introduced at the trial the clearest evidence showing that as a matter of fact the property generally in the Wakefield Tax District was assessed in 1911 at not more than one-third of its value.

When the plaintiff rested its case the defendant also rested without introducing any evidence (R. 167), thus leaving the testimony undisputed, whereupon both parties moved for a directed verdict. (R. 167, 168). The trial court thus had before it only the uncontested evidence of the general undervaluation of property in the taxing district for the year 1911, the admitted knowledge of such fact by the State Board and the sole excuse of the Tax Commission for its unequal as-

sessment, namely: the lack of time to hold the general review. The trial court could not, therefore, fairly contradict or find the facts contrary to the undisputed evidence, nor did it attempt to do so. It assumed as a proven fact the general under-valuation of property in said tax district, and confined itself to justifying the action of the State Tax Commission on the ground of want of time. The trial court used the following language (R. 176):

> "It further appears from the evidence that this meeting which was held by the State Board was to review only a portion of the property of the township, the order having specified only certain properties, and the board was here only to review such properties. Under the order and notice which had been given of such meetings it would have been illegal for the board to proceed at that meeting to review the property in the balance of the township except such property as was included in their notice. This meeting was held at a time when it was then too late for the State Board to proceed to give notice of a general review of the township under the law, for the reason that this meeting was held on October 2, 1911, and the annual meeting of the board of supervisors when the entire county would be equalized by the County Board of Supervisors was to be held on the 9th day of October. This did not permit of the State Board of Tax Commissioners giving the necessary statutory notice to review the entire township.
>
> "The question then presents itself to the court whether, under such circumstances, the State Board was obliged to abandon the reviewing of the particular property covered by its notice and order and for which the meeting was being held because of the fact that it had brought to its attention by the plaintiff the information that the balance of the township was not assessed at cash value. * * * * But, in any event, I conclude that the State Board had a right to proceed to review the assessments upon the property covered by the order and notice and that the action of the State Board was valid in proceeding to review the property and increase the

assessment, provided they acted legally in making the increased assessment."

And further (R. 179-180):

> "I am just as well convinced that the State Board had a right to proceed to hold this meeting for a special review. If their attention had been called to the matter soon enough to hold a general review, perhaps a different question might present itself; perhaps it might have been held necessary for them to proceed to make an investigation of the balance of the township, but at that late date when they had no time to make such a general review, and having had definite information brought to their attention, that this particular property was under-assessed, they had a right to proceed to do their duty and assess this particular property at its cash value in accordance with the statutes of Michigan."

This statement of the Circuit Judge entirely overlooks the important fact that the question of assessing other property was brought to the attention of the State Board at the earliest opportunity in connection with the holding of the special review ordered by the board. It also overlooks the admitted fact that the State Board theretofore knew of the general under-assessment of property in said district, and that the supervisor, Simonson, who was present at the hearing with his tax roll, had lately acquired personal and detailed knowledge of property values in the taxing district in question, which would have enabled him to advise properly the board in adjusting and equalizing these values. It is no answer to say that no notice had been given of the purpose of the board to hold a general review. Since the board had knowledge of the general under-valuation it should either have called a meeting for a general review, where all property could have been raised justly and relatively in the same proportion, or it should have waited until such time as it could do this in a manner satisfactory to itself. If lack of time can operate as an excuse for failure to treat taxpayers equally under the law then taxing and other officers can with impunity deny the

equal protection of the law to the citizens of a state. On principle, the action of the board was violative of the plaintiff's constitutional rights. It resulted in taking from it thousands of dollars which it did not rightfully owe. Lack of time to make a proper assessment cannot justify such a wrong.

From the decision and judgment in the trial court the case was taken to the Supreme Court of Michigan. That court made no attempt to sustain the holding and determination of the trial court, that lack of time justified the action of the State Tax Board in its discrimination. The Supreme Court simply dismissed the whole constitutional question with the following brief statement, found on R. p. 292, 293:

> "It further appears that after the report of the Finlay appraisal was made public, disclosing the value and long life of the mines in the township, business conditions in the village and township of Wakefield became better, and the values of property increased. These changed conditions it may be said at least in part accounted for the increased assessments in 1912, and, as in the Newport case, we are in the instant case unable to find any specific data in this record to sustain the conclusion that the non-mining property in the defendant township was not assessed relatively as high in 1911 as was the mining property."

The above statement of the Supreme Court of Michigan is in the face of the undisputed testimony; indeed, it overlooks the conceded facts and the admission of the State Board itself of the general under-valuation of property for the year 1911 and its knowledge of that fact.

The total inaccuracy of the statements relative to the value of property in 1911 is perfectly manifest when we consider the testimony of Supervisor Simonson, the assessor who made up the roll, namely: that the valuations which were carried into the assessment roll of 1912 were reached by him mainly in the summer of 1911, right after the June meeting of the local Board of Review for that year, (R. 73, 82), when he be-

came "of the opinion that it" (the properties generally) "had not been assessed enough in 1911." (R. 73, 82, 83). Neither does the record show that the publication of the Finlay report had any affect whatever upon the valuation of property generally in this taxing district. While it appears that the Finlay report was filed with the board in August, 1911, and that figures there contained were given out—no publication of this report was made until October 2nd of that year (R. 29); and there is not the slightest evidence in the record that such report affected the value of property in this district at all. On the contrary the assessor testified that in fixing his value, which was set forth in the tax roll of 1912, the figures there affixed represented the amount which he believed the property was worth in 1911, when he concluded it had been under-assessed for that year.

While there is evidence in the record tending to show that in the fall of 1912, after the assessment for that year had been made, certain new mines in Wakefield Township had been discovered and tha business began to pick up and then began to improve in the village after this discovery; yet this evidence related to a time after even the assessment of 1912. The evidence here referred to was by Supervisor Simonson on cross-examination:

> "In the Village of Wakefield because of business being good and more mines being opened and prospects better, I guess things are looking better now than they ever were for quite a few years. I guess that doubled the valuation of village property, as much as I can make out." (R. 81).

Simonson was then testifying as to conditions at the time of the trial in April, 1913, and not in respect to the conditions at the time the valuations were made. Before his cross-examination was completed he made this plain:

> "I don't think that business generally in the Village of Wakefield picked up very much between the time I made up the 1911 assessment roll and the time I made the 1912 assessment roll; not enough so that I noticed that. ***This time it has picked up lately.***

I don't think I noticed it picked up between the time when I made the assessment roll in 1911 and that in 1912; it may have picked up a little. Business picked up in the fall of 1912 after they started those drills over there in that new mining property. The prospects of getting new mines there made business pick up; it did pick up, quite a bit now. I think merchants increased their stock.

"Q. Property became more in demand and more valuable?

"A. I think so.

"Q. And business generally became better?

"A. I ain't in business but *in the last three months' time the valuation of property went up some.*

"Q. That is due to the discovery of the new ore fields?

"A. Yes, as soon as they have started talking about finding ore." (R. 122).

Furthermore, it appears from the map (Exhibit 10) that Wakefield Township is a large township containing six surveyed townships. A large portion of the township consists of timber land; and even though property values in the Village of Wakefield had been affected, either by the publication of the Finlay report or by the discovery of new mines in that vicinity—there is nothing to show that this condition was, or could have been in any way responsible for the great change in the valuations of timber land; and such was not the case.

The Supreme Court of Michigan could not, by shutting its eyes to the conceded and undisputed facts and to the manifest conditions as they appear from the record, lawfully foreclose the plaintiff from all remedy and thus by the simple process of elimination consummate the taking of plaintiff's property without due process of law and the denial to it of the equal protection of the laws of Michigan.

Respectfully submitted,

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Supreme Court of the United States

OCTOBER TERM, 1916.

No. 277.

SUNDAY LAKE IRON COMPANY,
Plaintiff in Error,

vs. (24,980)

THE TOWNSHIP OF WAKEFIELD,
Defendant in Error,

BRIEF FOR DEFENDANT IN ERROR.

STATEMENT OF CASE.

The omission of important facts from the statement in plaintiff's brief, and a number of inaccuracies, makes necessary a supplemental statement.

FACTS RELATIVE TO THE ASSESSMENT AND REVIEW OF PROPERTY IN WAKEFIELD TOWNSHIP IN 1911 BY LOCAL OFFICERS.

The township assessing officer, the supervisor, was elected in April, 1911, and proceeded to assess all property in the township in order to have his assessment roll ready for review by the board of review that met on the first Monday in June. He was janitor of a public school at the time of his election, and although he had never before held the office of supervisor and was inexperienced as an assessing officer, he had lived in the township for upwards of ten years and was familiar with the value of property in the surveyed township in which he lived, and in other surveyed townships nearby, in the organ-

ized Township of Wakefield. (R. 70, 72.) As far as he could make personal examination and procure personal information as to the value of property, he made such examination and procured and used such information in the making of the assessments. He also sent out to all property owners in the township blanks forms, as required by statute, to be filled in by such property owners, showing the amount and value of their property. The blank sent the plaintiff was never returned to him. (R. 83.) Only mining experts who had access to the mines knew the real value of them.

In making the assessment of all property in the township, the supervisor used his best judgment and information, and honestly sought to assess all property at its true cash value and in every way endeavored to comply with the provisions of the tax law. (R. 73, 82.) Testifying for the plaintiff, he said (R. 73):

> "I did not merely copy these descriptions from the old roll, but I used my judgment before I put them on. With reference to the property, which I had not seen and which I did not know anything about, I was perhaps just making the roll as it had usually been made before."

He also testified (R. 82):

> "After I started in making up the roll in 1911, I was just about as busy as I could be making up that roll, and I did the very best I could to put down the property on the roll at its true cash value, using my honest and best judgment in regard to it. The extent of the township and the amount of property in it would not permit my personal examination of any more of it than I did examine during the first year. I was a member of the Board of Review in 1911. So far as I was personally concerned, I used my very best judgment in passing on the assessments at its meetings, and so far as I know, the other members did the same. As far as I know, we all exercised our honest and best judgment in passing on those assessments. We endeavored to put everything down at the true cash value. Both when I assessed the property of the township in 1911, and at the time I sat and acted as a member of the Board of Review, I endeavored to put the property down at its true cash value, and I used my honest and best judgment on it."

After the supervisor had completed the 1911 assessment roll, and at the times provided by law, the board of review of the township met for the purpose of reviewing his assessments, remaining in session five days. The other members of the board of review were more familiar with the outlying timber lands than the supervisor, and in reviewing the assessment roll, as made by the supervisor, changed somewhat the valuations as fixed by him (R. 73), but acted fairly and honestly, using their best and honest judgment and information to place upon the roll all assessable property within the township, and to assess it all at its true cash value. (R. 82).

While the board of review was in session, the plaintiff's general superintendent, Mr. Walton, being chargeable with looking after the assessment of its property, appeared before the board and complained that the assessed valuation placed on the Sunday Lake mine by the supervisor, namely, $65,000, was too high. (R. 81.) He made no claim to the board that any property in the township was undervalued on the assessment roll, as prepared by the supervisor or changed by the board. (R. 82.)

Mr. Walton had been supervisor of Wakefield Township for several years before Simonson. (R. 83.) Some of the assessment rolls prepared by him were delivered to Simonson after the latter was elected supervisor. On these rolls, the Sunday Lake mine (including the Iron Chief) was assessed at $65,000, and some years as low as $40,000. (R. 8.) Simonson, not knowing the value of plaintiff's property in determining its valuation, was guided by the valuation as fixed in the assessment rolls for previous years.

Legislation Requiring Board of State Tax Commissioners to Appraise All Mining Properties for Purposes of Taxation.

As stated in plaintiff's brief, in 1911 the legislature of Michigan enacted Act. No. 114 of the Public Acts of 1911, requiring the Board of State Tax Commissioners "to investigate, examine into, inventory and appraise all mining properties and mineral rights in the state," * * * "and to report the result of their investigation, examination, inventory and appraisal to the State Board of Equalization on or before the third Monday in August," in that year.

By the terms of the act, the board, with the consent of the Governor and Board of State Auditors, was authorized to employ such experts and clerical assistants as was necessary to carry out the provisions of the act, and the sum of $30,000 was appropriated to defray the expenses of such appraisal.

Pursuant to the provisions of this act, the Board of State Tax Commissioners employed James R. Finlay, of New York City, a consulting mining engineer, of national repute, to make the appraisal. He was a lecturer in Harvard University, and a recognized authority on the value of mines and mining property, having had many years of practical experience in mining and in the appraisal of mines for prospective purchasers. (R. 28, 39, 124, 139, 140.)

Dr. C. K. Lieth was employed to assist Mr. Finlay in the examination and appraisal of the iron mines only. He then was and now is a Professor of Geology in the University of Wisconsin, and a geologist of high standing. He had been well acquainted with the iron mining district of Michigan for over fifteen years prior to the time of his employment to assist Mr. Finlay, having made a special study of that district with Dr. Van Hise, President of the University of Wisconsin, in connection with the United States Geological Survey, and also individually in examining mines for prospective purchasers. He also is a recognized authority on the value of iron mines in this district, and for that reason was selected to assist Mr. Finlay in the examination and appraisal of those mines. (R. 39, 140, 141.)

Dr. Lieth personally examined the iron mines, including the plaintiff's mine, and estimated the tonnage of iron ore, devoting the greater part of June, all of July, and the early part of August, 1911, to such duties. He had general charge of the work of estimating the tonnage of the iron mines. After he had been over these mines, he and Mr. Finlay together visited some of the important properties, including plaintiff's property. Mr. Finlay did not go underground in the Sunday Lake mine, but he visited the mine, made an investigation consisting of an examination of the maps and blue prints, and conferring with the superintendent and engineers regarding the property. After Dr. Lieth had completed his examination of the iron mines, he made a report to Mr. Finlay, showing the tonnage of the mines and giving a general description of the physical condition of each of the properties. (R. 32-33.)

The statement in plaintiff's brief, that "Mr. Finlay and Mr. Lieth had no further information with reference to this mine than was derived from an examination of the maps and statements made to them," is not correct, as Dr. Lieth made a personal examination of all of the iron mines. (R. 32.)

After completing the examination of plaintiff's mine, Mr. Finlay estimated the tonnage of ore in the mine in 1911 as 1,500,000 tons and determined the cash value of the mine as $1,460,000. (R. 31, 238.)

FACTS AS TO ACTUAL VALUE OF PLAINTIFF'S PROPERTY IN 1911.

Plaintiff's mine, referred to as the Sunday Lake and the Iron Chief properties, consists of 320 acres, and, as are all other iron mines in Wakefield Township, and in Gogebic County, is located on an iron formation about 1,000 feet in width, extending from the western boundary of the county in a northeasterly direction, and has been followed and explored for a distance of upwards of fifteen miles. This formation is technically known as a monocline, being turned up at an angle of about 60 degrees to the north. (R. 43, 141.) The depth of the formation is still unknown (R. 43), although mining has been actively carried on for upwards of 30 years, and in one mine the formation has been followed to a depth of over 2,000 feet. The ore body at that depth shows no indication of diminishing. (R. 141.) The plaintiffs mine had been operated for upwards of twenty years prior to 1911, and had reached a depth of 1,068 feet, the lowest level being the 20th level. (R. 45, 238.)

Prior to 1911, there had been mined and shipped from this mine 1,422,461 tons of iron ore. (R. 236.) Both Dr. Lieth and Mr. Finlay testified that the lowest level in 1911 showed an improvement over the upper levels. (R. 38, 238.) Mr. Finlay, in his report, the correctness of which he verified under oath, as a witness for the plaintiff, in speaking of the ore body in the Sunday Lake and Brotherton mines in 1911, said:

> "It shows remarkable continuity and is improving The bottom level, 1,068 feet deep in each, shows a continuous body of ore 1,700 feet long, with an area of excellent ore 61,000 square feet." (R. 238.)

Mr. Munger, plaintiff's general manager, called as a wit-

ness by the plaintiff, testified that in 1911 the Sunday Lake mine was in fact worth $350,000. In arriving at this valuation, he estimated the tonnage of ore in the mine as 250,000 tons—150,000 tons above the lowest level, and 100,000 tons below it—giving to the ore in the mine a value of $1.40 a ton. (R. 92.) The basis of Mr. Munger's estimate as appears from his testimony included only the ore actually in sight. He testified:

> "Our estimates in the Sunday Lake mine have disclosed that there is a great deal more ore there than we ever thought of. We could not see all the ore. *We always go by what we can see.*" (R. 95.)

Mr. Crowell, another of plaintiff's witnesses, and indirectly employed by plaintiff (R. 54), in 1911 estimated the ore in this mine as 400,000 tons—200,000 tons above the bottom level and 200,000 tons below it. (R. 50, 54.) This witness adopted the same basis of estimate as plaintiff's general manager, Mr. Munger. The probable value of this tonnage of ore in the mine in 1911 was estimated by Mr. Munger at $550,000. (R. 94.)

After the assessments in 1911, and before the trial of this case, another level was opened up. The additional ore exposed to view by this development would, according to the testimony of Mr. Munger, increase the tonnage in the mine in 1911, on the basis of estimate adopted by Mr. Crowell, to 550,000 tons. (R. 93.)

Mr. Finlay, also a witness for the plaintiff, estimated the tonnage in this mine in 1911 at 1,500,000 tons. (R. 139, 238.) This estimate assumed that the mine would produce an amount of ore equal to an extension of the ore body as it existed at that time on the lowest level, of four hundred feet. On this tonnage he placed the value of the mine at $1,460,000, or less than $1.00 per ton. (R. 31.)

Referring to his estimate of tonnage, Mr. Finlay, testifying for the plaintiff, said (R. 127-128):

> "In the case of mines that reported no considerable reserves, I interpreted the facts as I found them in given districts. In some places I found that the ore bodies developed on the lowest levels were smaller than they had averaged in the upper levels, and I took that diminution of volume into account and projected it

downward so as to figure out the depth at which they would probably play out, and estimated the amount of ore that would be found on that basis. In other cases I found there was no diminution in size even at the greatest depths; and that was the case on the Gogebic Range. I was forced there to assume an extent or depth, based on what facts I could gather in my visit; some mines were developed to a depth of over two thousand feet; others were not. There were mines that were less than two thousand feet, with no definite reason for thinking that they would not also be two thousand feet deep when they were fully developed; but in general I did not add more than twenty-five per cent to the sum total of the ore that the mines had already accounted for."

He also testified (R. 136-137):

"That would mean that I expected that it would produce ore equal to an extension of something over four hundred feet at the average area of its bottom level. But that does not necessarily mean that it would go down that deep; simply that it would be the equivalent of that.

Q. You mean on the Brotherton and the Sunday Lake?

A. Yes. I think it is a reasonable estimate. I am considering the ore body, not the division between the two mines.

Q. You said you projected that four hundred feet?

A. Not necessarily, by any means. It would simply mean that it would be equal to an extension of four hundred feet. It might extend much more and get a diminishing volume of ore, or if the ore body increased in size that amount would be taken in less than four hundred feet. It simply meant that I thought the evidence showed that that amount of ore could be counted on. We have a mine here a little over a thousand feet deep, with over 3,500,000 tons—1,068 feet, it had been opened. The ore body had been increasing in size as it went down, and my assumption simply was that about sixty per cent of the ore had been extracted, and it was reasonable to expect forty per cent would remain. I still think so, from any evidence in my possession."

Equalization of Assessments of Mining Properties in Gogebic County by Board of State Tax Commissioners.

When the Finlay report of the appraisal of the mines was transmitted to the Board of State Tax Commissioners, a special review of the assessments of mining properties was ordered, the review in Gogebic County being held on October 2, 1911. (R. 15-16.) At this meeting, representatives of the various mining companies, including the plaintiff, appeared before the board and protested against any increase in the assessed valuation of their properties. The plaintiff at that time urged before the board substantially the same claims, objections and arguments as made in this case. (R. 17-23, 42.)

These claims were duly considered by the board in fixing the valuation upon plaintiff's property, and because of them a reduction of approximately $400,000 was made by the board from the value as fixed by Mr. Finlay. (R. 10, 31, 42.)

Although the claim was made by plaintiff at this meeting of the board that property generally outside of mining property in the Township of Wakefield was under-assessed, no proof of that fact was offered and the repeated statement in plaintiff's brief that this board had any knowledge of any general under-assessment of property in this township or elsewhere in the state is wholly untrue and finds no support in the record.

No General Under-Assessment of Property, Outside of Mining Property, in Wakefield Township in 1911.

The undisputed evidence of the plaintiff shows that the supervisor, in assessing the property in Wakefield Township, in 1911, and the local board of review, in reviewing his assessments, honestly endeavored to assess all property at its true cash value. The only evidence offered to show that property generally outside of mining property was not assessed at its true cash value in 1911, was the assessment roll prepared by the supervisor the following year, and the testimony of William S. Peters, a clerk at the Mikado mine, which was operated and controlled by the same interests as the plaintiff's mine.

The assessment roll of 1912 showed material increases in

the value of much of the non-mining property over the valuation as fixed in 1911. This increase, however, did not extend to all such property, the valuation of some of this property being in fact reduced in 1912. (R. 122, 123.)

Conditions generally, however, and the value of property in the township, changed materially between October, 1911, and the date when the assessment roll was made and reviewed in 1912. General property in the township was in fact more valuable in 1912 than in 1911. The Village of Wakefield grew up around plaintiff's mine and the Brotherton mine adjoining, operated by the same interests. Business in the village and in the township depended upon the mining industry, and largely upon these two mines. (R. 98, 108, 157.) In 1911 the mining companies claimed that the mines were nearly exhausted. (R. 82.) The Sunday Lake (including the Iron Chief), the largest in the township, was assessed at only $65,000. Some years it had been assessed as low as $40,000. (R. 83.)

In 1911 the plaintiff complained to the local board of review that the assessment of $65,000 was too high for that property. (R. 81.) Business was dull in the township. (R. 81.) The county was undeveloped. Not even a road extended across it. (R. 109.) There was little demand for farm lands and very little farming was done. Mostly all the lands were wild. A river cut off the northern part of the township and the timber lands were such a great distance from market that only a part of the pine was taken. What farms there were were small, mostly uncleared, having but small buildings upon them, and were occupied by new settlers. (R. 80, 81.)

When the contents of the Finlay report became public in 1911, and the real value of the mines in the township became generally known, business improved, merchants and business men increased their stocks and began to make permanent improvements in their buildings, and property became more in demand and more valuable. New ore fields were also discovered and the building of a new county road was commenced, rendering prospective farm lands more accessible and more valuable.

Simonson testified (R. 81):

> "In the Village of Wakefield, because of business being good and more mines being opened and prospects better, * * * things are looking better now than they were for quite a few years. I guess that doubled

the valuation of village property, as much as I can make out."

The witness Peters (upon whose testimony the claim of undervaluation of property is largely based) was indirectly employed by the plaintiff as a clerk at the Mikado mine. He had sole charge of the mine office. He did no buying and nearly all of his time was spent at the mine office. He worked there daily from 7 a. m. until 6 p. m. and did no lumbering except during the time of his employment. On the Sunday preceding the trial, he went a short distance from the Village of Wakefield to look over some lands in order to qualify himself as a witness in the case. (R. 153-155.) The only lands he visited or claimed to know anything about were in Sections 5, 6 and 7 in township 45, range 45. (R. 145.) He testified as to the value of two descriptions only, and as to these he did not assume to place a cash value. (R. 151.) Before he became a mining clerk he worked around the mines. He never worked in the woods. He testified almost exclusively to conditions, and his opinion of valuations were as of the time of the trial. (R. 154-155.)

ARGUMENT.

The power to fix the valuation of property under the system of taxation in Michigan is given, *first*, to the local assessing officer; *second*, to the local board of review, and *third*, to the Board of State Tax Commissioners, the final arbiter. The determination of the value of the property of the state for taxation purposes is consigned to these officers and reviewing boards, and the courts do not, as in some states, sit as boards of review in tax matters. The courts, in cases involving tax assessments (except in cases involving questions of regularity) are confined to the inquiry as to whether the assessment has been fraudulently made. Section 76 of the general tax law (Sec. 3899, Compiled Laws, 1897), so far as is important here, provides:

> "In any suit or proceeding to enforce or set aside any tax, such tax shall be held illegal only for one of the following reasons: * * * Fifth, that the supervisor or board of review in assessing a person or property for taxation, or in the apportionment of the tax to the person or property in question, acted fraudulently."

The presumption is that assessing officers, in making and reviewing assessments, act honestly in the discharge of their duties, and unless it be shown by satisfactory proof that in fixing valuations such officers acted fraudulently, their judgment cannot be overthrown by the court.

The plaintiff in this case seeks by grossly unwarranted assumptions and conclusions of fact to bring this case within that line of decisions, holding in effect that where there is shown a deliberate and settled purpose on the part of assessing officers to discriminate in the assessment of property by adopting a standard of valuation to be used for one species of property, which is different from that used for another, and which results in an unequal distribution of the burden of taxation, such action amounts to a denial of the equal protection of the laws to the person damaged, and to taking property without due process of law in violation of the 14th amendment to the Constitution of the United States.

Board of State Tax Commissioners Sought to Correct Assessment on Plaintiff's Property in Such Manner As to Make Its Valuation Relatively Just and Equal.

The defendant asserts that the undisputed evidence of the plaintiff shows that the local assessing officers in the taxing district involved, acting fairly and honestly, sought and endeavored to assess all property at its true cash value, as required by law, and that the Board of State Tax Commissioners, in reviewing the assessment so made on plaintiff's property, honestly sought to correct the assessment as to such property, in such manner as to make the valuation thereof relatively just and equal, *and further,* that the valuation so finally fixed was in fact relatively just and equal, and required plaintiff to bear only its fair proportion of the burden of taxation.

As to the manner of making and reviewing the assessments in the township by the local officers, the undisputed evidence is that these officers used their best and honest judgment and information to assess all property in the township at its true cash value. (R. 82.)

We have then to consider the action of the Board of State Tax Commissioners in raising the valuation on plaintiff's property as fixed by the local officers. While the local assessing officer and board of review were undoubtedly possessed of such information regarding general non-mining property as to enable them to exercise judgment and discretion in fixing its value, it must be conceded that they were incompetent to judge of the value of plaintiff's mine. Only mining experts having access thereto could know its real value. Recognizing the inability generally of assessing officers to pass upon mine values, the state legislature in 1911 provided for an expert examination and appraisal of all mines. This appraisal of the iron mines was made by experts of the highest standing.

The report of this examination and appraisal to the Board of State Tax Commissioners disclosed the cash value of plaintiff's property to be $1,460,000. It was assessed by the local assessing officers at $65,000.

Section 152 of the general tax law (set out at length in plaintiff's brief, pp. 20-22, provides:

"After the various assessment rolls required to be made under this act or under the provisions of any municipal charter shall have been passed upon by the several boards of review, and prior to the making and delivery of the tax rolls to the proper officer for collection of taxes, the said several assessment rolls shall be subject to inspection by said Board of State Tax Commissioners or by any member thereof; and in case it shall appear after investigation by said board, or be made to appear to said board by written complaint of any taxpayer, that property subject to taxation has been omitted from said roll, or individual assessments have not been made in compliance with law, the said board may issue an order directing the assessor whose assessment or failure to assess is complained against, to appear with his assessment roll and the sworn statements of the person or persons whose property or whose assessments are to be considered at a time and place to be stated in said order, said time to be not less than seven days from the date of the issuance of said order, * * * *. The said board or any member thereof, as the case may be, shall then and there hear and determine as to the proper assessment of all property and persons mentioned in said notice, and all persons affected or liable to be affected by review of said assessments thus provided for may appear and be heard at said hearing. In case said board, or the member thereof who shall act in said review, shall determine that the assessments so reviewed are not assessed according to law, he or they shall, in a column provided for that purpose, place opposite said property the true and lawful assessment of the same."

The gross under-assessment of plaintiff's and other mining property having been established by a scientific examination and appraisal, made by the Board of State Tax Commissioners, pursuant to the mandate of the legislature, it was obviously the duty of this board to act in correcting these assessments. That the board would act was evidently anticipated by the plaintiff. Its general manager testified (R. 99):

"I expected that after a man had been employed by the state and he had looked into the mine and given the information to the State Board of Tax Commissioners, that Board was very apt to do something."

It did. Having given the necessary notice, a review of iron

mining properties, including the plaintiff's, was held in Gogebic County October 2, 1911. The plaintiff appeared before the board at that time and *objected to any increase* in the assessed valuation of its property, urging substantially the same claims and objections that it now makes, namely, that the value of plaintiff's mine as fixed by Finlay, was in excess of its true cash value, and that other and non-mining property in the township was generally under-assessed.

These claims and objections made by the plaintiff were duly considered by the board, and to allow for any possible truth or justice that they might contain, *the board in fixing a valuation on plaintiff's property, made a reduction of approximately* $400,000 (more than 26 per cent) from the cash value of the mine as fixed and determined by the Finlay appraisal. (R. 10, 31, 42.)

Dr. Lieth, who after the completion of the appraisal made by the Board of State Tax Commissioners, was retained as adviser by the board, testifying on behalf of the plaintiff, said (R. 42):

> "When I stated that I modified somewhat the tonnage as determined by Mr. Finlay, I mean that I reduced the tonnage. After making that reduction, two flat cuts were made in the valuation of these properties, the Brotherton, Sunday Lake and the Mikado, the first of five per cent and the second of ten per cent. *These cuts were made to cover any possible truth or justice that there might be in the claims made by the owners and operators of these mines as urged by them at the hearing of the Tax Commission, held on October 2nd, 1911.*"

The extreme care exercised by the board to prevent injustice to the plaintiff, by reason of error, is evident from the fact that it caused a subsequent examination of plaintiff's mine to be made by Dr. Lieth in 1912. This examination confirmed the facts disclosed by the examination made in 1911, and Dr. Lieth was unable to in any way modify or change his opinion as to the value of the property because of any facts disclosed by the second examination. (R. 40.)

The only testimony in the record which is pointed to as sustaining the claim that the Board of State Tax Commissioners had knowledge of any alleged under-valuation of property generally in the township is the following statement of Com-

missioner Shields, made during a colloquy in the course of the meeting of the board held to review the assessment on plaintiff's and other mining property (R. 25-26):

> "If we had the same detailed information as to valuation of all the other property in these different counties, and had the time, we would have had a general hearing. If we had the general data and the time to cover all these properties, we would have had a general review.
>
> It wasn't detailed information such as we had in Finlay's report. That was obtained by getting a list of transfers of property and taking that and comparing it with the actual assessment roll. And it was necessarily of a limited number of descriptions. In order to have the same information on that property as we have on the mining property, we would have had to have information on every description of property, but with the method we had we only had information on those parcels which were actually sold, so we had no official knowledge of the valuation of the large bulk of the property which had not been sold which we do get when we order a general review. We have knowledge of low assessments in practically every assessing district in the state, but it would be a physical impossibility to have hearings in every district in the state.
>
> Mr. Bell: You had sufficient information, did you not, so that you felt warranted in reporting to the State Board that property in many counties was not assessed at anything like cash value on property outside of the mines?
>
> Mr. Shields: We have data showing any number of instances where property is assessed a good deal lower than even general property in the mining counties, but this data did not reach us until within a week before the board of equalization met. * * * *
>
> Mr. Bell: You were satisfied, were you not, from the information you did have that *properties* in these counties outside of the mining property was not assessed at full value?
>
> Mr. Shields: Yes, there was no question about that."

It is claimed that this statement made by Mr. Shields constituted an admission on the part of the board that the members of the board had knowledge of a general under-assessment of property throughout the state, including the Township

of Wakefield. For the board to say that they had "knowledge of low assessments in practically every assessing district in the state," or that they were satisfied from the information that they had "that *properties* in these counties outside of mining property was not assessed at full value," falls far short of an admission of any general under-assessment, and merely acknowledges a condition with reference to assessments that always has, and probably always will exist as long as value remains so largely a matter of opinion and the minds of men differ.

It would appear from these facts that the board, in fixing a value on plaintiff's property, acted fairly and honestly, and even generously, to the plaintiff, giving due weight and consideration to all claims made, including the unsupported claim of the general under-assessment of non-mining property in the township.

No discrimination, or attempted discrimination, being shown on the part of the Board of State Tax Commissioners, and it appearing that they acted honestly and fairly in fixing the assessment complained of, their judgment cannot be assailed. It is well recognized that only in cases of fraud can an assessment be invalidated. We desire to call the court's attention to some of the leading cases on this question.

C. B. & Q. Ry. Co. vs. Babcock, 204 U. S., 598, was a case that came to this court from the district court of Nebraska It involved the question of the valuation for assessment purposes of certain railroad property as fixed by a state board, it being alleged that the board acted fraudulently. After observing that "the charge of fraud, even if adequately alleged, * * * was very slightly pressed at the argument and totally fails on the facts," and that "such charges are easily made, and it is to be feared, often are made without appreciation of the responsibility incurred in making them," this court, in speaking of the function of the board said:

> "The board was created for the purpose of using its judgment and its knowledge. State Railroad Tax Cases, 92 U. S., 575, 23 L. ed. 663; State ex rel, Bee Bldg. Co. vs. Savage, 65 Neb. 714, 768, 769, 91 N. W. 716; Re Cruger, 84 N. Y. 619, 621; San Jose Gas Co. vs. January, 57, Cal. 614, 616. Within its jurisdiction, except as we have said, in the case of fraud or a clearly shown adoption of wrong principles, it is the ultimate guardian of certain rights. The state has confided

those rights to its protection and has trusted to its honor and capacity as it confides the protection of other social relations to the courts of law. Somewhere there must be an end. We are of the opinion that, whatever grounds for uneasiness may be perceived, nothing has been proved, so clearly and palpably as it should be proved, on the principles laid down in San Diego Land & Town Co. vs. National City, 174 U. S. 739, 754, 43 L. ed. 1154, 1160, 19 Sup. Ct. Rep. 804, in order to warrant those appeals to the extraordinary jurisdiction of the circuit court."

Maish vs. Territory of Arizona, 164 U. S., 610, was a case brought to this court from the Supreme court of the Territory of Arizona, and involved the foreclosure of a tax lien. The court in affirming the judgment of the Supreme Court of Arizona said in part:

"A final objection is that the assessment was grossly unfair, and that there was a fraudulent discrimination in favor of the Southern Pacific Railroad Company. It appears that the assessment of ordinary range cattle was fixed by the territorial board at $7.42, while one witness testified that their value was from $6.00 to $6.50 per head. It also appears that the territorial board valued the property at $811.14 per mile, while there was testimony that to duplicate the roadbed and track alone would cost from $21,000 to $22,000 per mile; and appellants offered to prove that the railroad company stated to the board that if the valuation was fixed at about the rate which was fixed, it would pay the taxes; if much higher, it would resist collection in the courts; and that the board concluded that it was better to get some taxes out of the railroad company than none, and therefore fixed the valuation at the sum named.

There is nothing tending to show that the board, in fixing the value of cattle at $7.42, acted fraudulently or with any wrongful intent, or that that valuation was not the result of its deliberate judgment upon sufficient consideration and abundant evidence, and it would be strange indeed if an assessment could be set aside because a single witness is found whose testimony is that the valuation was excessive. No assessment could be sustained if it depended upon the fact that all parties thought the valuation placed by the assessing board was correct. Something more than an error of judg-

ment must be shown, something indicating fraud or misconduct. Neither is the fact that an officer of the railroad company came before the board and declared its willingness to pay taxes on a certain valuation and its intention to resist the payment of taxes on any higher valuation sufficient to impute fraudulent conduct to the board, although it finally fixed the valuation at the sum named by the railroad company. It appears from the testimony of one of the members of the equalization board that it was guided largely by the valuation placed in other states and territories upon railroad property, and that from such valuation, as well as that given by the railroad company, it made the assessment at something like the average of the valuation of railroads in the various states and territories named. It is unnecessary to determine whether this board erred in its judgment as to the value of this property, whether it would not have been better to have made further examination and taken testimony as to the cost of construction, present conditions, etc. Matters of that kind are left largely to the discretion and judgment of the assessing and equalizing board, and if it has acted in good faith its judgment cannot be overthrown." Pittsburg, C. C. & St. L. R. Co. vs. Backus, 154 U. S., 421-435 (38:1031-1039).

In *Adams Express Co. vs. Ohio*, 165 U. S., 229, a case involving the function of the court in reviewing the action of a state board, created for the purpose of fixing valuations for purposes of taxation, this court said:

"We have said nothing in relation to the contention that these valuations were excessive. The method of appraisement prescribed by the law was pursued and there were no specific charges of fraud. The general rule is well settled that 'whenever a question of fact is thus submitted to the determination of a special tribunal, its decision creates something more than a mere presumption of fact, and if such determination comes into inquiry before the courts it cannot be overthrown by evidence going only to show that the fact was otherwise than as so found and determined.' Pittsburg, C., C. & St. L. R. Co. vs. Backus, 154 U. S., 434 (38:1039); Western U. Teleg. Co. vs. Taggart, 163 U. S. 1 (41:49)."

In *P. C. C. & St. L. Railroad Co. vs. Backus*, 154 U. S., 434,

another case on this same question, in affirming a decree of the Supreme Court of Indiana, this court said:

> "Upon this testimony the decision of the court was that there was nothing to impeach the assessment made by the state board, and in this conclusion we concur. The true cash value of the plaintiff's property in the state of Indiana in the year 1891 was a question of fact, the determination of which for the purposes of taxation was given to this special tribunal, the state board. Whenever a question of fact is thus submitted to the determination of a special tribunal, its decision creates something more than a mere presumption of fact, and if such determination comes into inquiry before the courts it cannot be overthrown by evidence going only to show that the fact was otherwise than as so found and determined. Here the question determined by the state board was the value of certain property. That determination cannot be overthrown by the testimony of two or three witnesses that the valuation was other than that fixed by the board. It is true such testimony may be competent, and was received in this case because, taken in conjunction with other testimony, it might establish fraudulent conduct on the part of the board sufficient to vitiate its determination. It is not, however, contended by counsel that there was any actual fraud on the part of that board; that the individual members thereof deliberately violated the obligations of their oaths of office, and intentionally placed upon the property of the plaintiff a valuation which they knew to be grossly in excess of that which it in fact bore, and did so with the purpose of making the plaintiff bear a larger share of the burden of the support of the state government than it rightfully should. The contention is rather that the board made a grievous mistake in placing so high a value, and that it took into consideration property outside of the state, and gave to the property within a value partly deduced from that without the state. The testimony, however, does not sustain this contention.
>
> The certificate of the state board does not show that it reached its determination of the value of the property in Indiana by first ascertaining the total value of the Company's property, and then dividing it on the mileage basis. It simply shows that it considered the matters which by the statute were required to be presented to it by the railroad company, as well as all other mat-

ters which in its judgment bore upon the question of value, and from such consideration reached the result announced, to wit, the value of that part of the company's road in the state of Indiana. Evidence that there were peculiar matters which gave to portions of the road outside of Indiana an erroneous value as compared with the general line of the road does not prove that the board did not take those peculiar matters into consideration. On the contrary, the reasonable presumption is that if its attention was called by the company to those facts it did take them into consideration in connection with the information derived from the total amount of stock and indebtedness of the Company. Indeed, its certificate is affirmatively that it took into consideration 'all other matters appertaining thereto that would assist the board in arriving at a true cash value' of the parts of the road within the State of Indiana. That the aggregate value of the entire property of the Company was evidence properly receivable and bearing upon the question of value of that part in Indiana is a proposition which, as we have heretofore said, is clearly established both on reason and authority. There is no evidence that the board had before it or considered any matter in reaching its determination which was not properly receivable and properly to be considered. A comparison of the assessment placed by the board upon the property of this plaintiff with that placed by it upon other roads, or portions of roads, within the state is immaterial unless coupled with an offer to show an identity in value, so that the case narrows itself down to this: Is testimony that the value placed by the board was excessive, together with testimony that portions of the road outside of the state were of largely greater value than any similar length of road within the state, unaccompanied with evidence that the board reached the valuation by simply dividing the total value of the company's property on a mileage basis, or that it failed to take into consideration the fact of such excessive value of portions outside the state, sufficient to impeach its determination? This question must be answered in the negative. No determination of a special board, charged under the law with the duty of placing a value upon property, can be successfully impeached by such meager testimony.

These are all the questions presented in this record,

and notwithstanding the shadow cast upon the action of the board by this large increase in valuation, we are forced to the conclusion not only that the act is not open to the objections made to its constitutionality, but also that there is no sufficient testimony to impeach the conclusion and determination of the state board."

In *Western Union Telegraph Co. vs. Taggart*, 163 U. S., 29, it was said:

"The bill further alleges that there was no market value for all the shares of the plaintiff's stock; that the price obtained for a very few shares in the New York stock exchange did not fairly represent the actual value of the plaintiff's property; and that any price at which any shares might be sold by holders thereof, whether calculated upon any market value or upon actual value, included a consideration of the plaintiff's franchises, its contracts with other companies, its actual past and probable future earnings from any sources, skill and enterprise of its managers, and all its real and personal estate in Indiana or elsewhere, including real estate of great value in other states, all of which were 'blended so as to render it impossible to separate and disintegrate the portions of value applicable to any and each of said elements of value of said shares.' This is hardly more than an argument to show the difficulty of ascertaining the cash value of the plaintiff's property in the State of Indiana. It certainly has no tendency to show that the tax commissioners did not, as they were required to do by the statute as since construed by the Supreme Court of the state, assess the plaintiff's property in Indiana at its true cash value, according to their best knowledge and judgment, and after making all proper deductions, on account of larger proportional values of its property and business outside of the state, or for any other reason.

The remaining allegations of the bill are either repetitutions or amplifications of those already considered, or are averments of conclusions of law. The allegation that 'the attempted and pretended valuation of complainant's said property by said state board of tax commissioners in manner aforesaid, * * * * necessarily includes, and does in fact include, values which are no part of the true cash value of the complainant in Indiana,' is but equivalent to an assertion that the decision of the tax commissioners upon the

question of fact committed by the statute to their determination was erroneous. As said by this court in Pittsburg, C. C. & St. L. R. Co. vs. Backus, above cited, 'Whenever a question of fact is thus submitted to the determination of a special tribunal, its decision creates something more than a mere presumption of fact; and if such determination comes into inquiry before the courts, it cannot be overthrown by evidence going only to show that the facts were otherwise than as so found and determined.' 154 U. S. 434, 435 (38: 1039). Judgment affirmed."

The decisions of the Michigan Supreme Court are in complete harmony with the decisions of this court.

In *Lumber Co. vs. Alpena*, 176 *Mich.*, 575, this same question was under consideration. The court said:

"The assumption of honesty and the exercise of their best judgment obtains also as to the members of the tax commission in the performance of their official duties, and with it goes extensive experience throughout the State in reviewing tax rolls and appraising property for taxation purposes. The burden is upon the plaintiff to prove to the contrary and show fraud. Does the shown diversity of opinion between these parties as to values raise that issue? Fraud cannot be predicated upon or inferred from an honest difference in judgment. Aside from the overvaluation, according to plaintiff's witnesses, there is no evidence of design against plaintiff or of a discriminating overvaluation to its injury from which wrongful or fraudulent purpose or intent is to be inferred."

In *City of Port Huron vs. Wright*, 150 Mich. 279, 287, another case where a similar question was involved, it was said by the court:

"If defendants are right in their contention that the residuum is exempt from taxation—and we make this assumption only for the purposes of this decision—the entire credit due from the Dixons was not exempt from taxation, but only so much thereof as represented the value of said residuum. In other words, so much of said credit as would be used in paying expenses of administration, debts, and specific legacies was liable to taxation. Under the theory most favorable to defend-

ants, it was then the duty of the assessing officers to place a valuation on that part of said credit liable to taxation. There is nothing in the record to show that these officers did not endeavor to perform their duty, and it is therefore to be presumed that they did endeavor to perform that duty. The most that defendants can claim—and I am not sure that they have a right to claim that much—is this, viz., that in performing this duty the assessing officers placed too high a valuation on the taxable portion of this credit. If they did, their judgment cannot be assailed in this proceeding."

THE ASSESSMENT AS PLACED UPON THE PLAINTIFF'S PROPERTY BY THE BOARD OF STATE TAX COMMISSIONERS, MADE THE ASSESSMENT OF THIS PROPERTY, IN FACT, RELATIVELY JUST AND EQUAL.

There is in the record, no proof of any general under-assessment of property, other than mining property, in Wakefield Township, in 1911. The only testimony offered by the plaintiff intended to show any such under-assessment, was the assessment roll of the township as made and reviewed the following year, and the testimony of a clerk indirectly employed by the plaintiff, who testified only to the value of two descriptions out of a total of 4,800 in the township, and as to these, did not assume to fix a cash value. It is true that the 1912 assessment roll showed material increases in the value of much of the non-mining property over the value as fixed in 1911. This increase, however, did not extend to all such property. The supervisor testified (R. 122-123):

"As a matter of fact, some of the assessments I made in 1911, were afterwards reduced quite a bit; some that I made were reduced as well as some raised; the tax commission reduced some of my assessments but they raised the majority of them. Yes, there was a difference of opinion between the tax commission and I as to the value of the property. * * *"

And it will be noted that conditions in the township had materially changed between the time of making the 1911 assessment roll and the time of making the 1912 roll. As the population of the township depended largely upon the plaintiff's mine, and the Brotherton mine adjoining, property

values, to a large degree, would depend upon the expected lives of these mines. Up to 1911, they had been assessed at practically a nominal sum and it was claimed by the operators that the ore was becoming exhausted. This had a depressing effect on property values and accounted for the fact as testified to by the supervisor, that business was dull and there was little demand for property. When the Finlay report became public, disclosing the fact that these mines were worth millions, and the public began to know and appreciate this fact, it naturally would and did enhance the value of property directly or indirectly dependent upon them. Exploratory work to discover other mines nearby, was also commenced in 1912. This also stimulated business (R. 81).

It is the claim of the plaintiff, however, that the increase in the assessed valuation in 1912, was not in any way due to the changed conditions, but was the result of investigation made by the supervisor, and from which investigation he had concluded that non-mining property in the township was not assessed at its full cash value in 1911. The testimony of the supervisor does not bear out counsel for the plaintiff in this claim. As the supervisor spoke English very imperfectly, his words must be scrutinized to get his real meaning.

He testified (R. 78):

> "The property in the Village of Wakefield was in the same condition physically in 1912, as it was in 1911, and I raised the valuation because I thought it was not high enough in 1911. *I did not make that change because I thought it was under-valued in 1911.*"

Referring to this question, the Supreme Court of Michigan speaking through *Mr. Justice Kuhn*, said (R. 292-293):

> "An examination of the evidence in this record is convincing that the business of the defendant township depended almost entirely upon the mining business, and the mine of the plaintiff company, which was one of the largest mines in the township, in 1911 was assessed at the small sum of $65,000, although plaintiff now admits that it is reasonably worth the sum of $450,000. People, generally at least, did not know the extent of the ore deposits, and it appears that business was dull. It further appears that after the report of the Finlay appraisal was made public, disclosing the value and the long life of the mines in the township,

business conditions in the village and township of Wakefield became better and the values of property increased. These changed conditions, it may be said, at least in part accounted for the increased assessments in 1912, and, as in the Newport Case, we are in the instant case unable to find any specific data in this record to sustain the conclusion that the non-mining property in the defendant township, was not assessed relatively as high in 1911 as was the mining property."

The true cash value of plaintiff's mine was fixed by the Finlay appraisal at $1,460,000. The method employed by Mr. Finlay in making this appraisal, is not seriously questioned. In brief, the value was determined by capitalizing the profits of the mine (R. 124-131) and was applied with a view to "determining the fair price a man could pay without expecting an exceptional profit, but at which he could sell without sacrificing the property" (R. 131). This theory of appraisal is concisely stated by Mr. Finlay in his repart (R. 207-210) and is discussed at length and approved by the Supreme Court of Michigan in

Newport Mining Co. vs. City of Ironwood, 185 Mich., 668.

In this case the court discussing the method adopted, said at pages 686, 688:

"As witnesses for plaintiff and for defendant, who spoke upon the subject, maintain, some such method as that of Mr. Finlay must be used to determine the value of the mineral, and therefore of the land. And if it is true that the Finlay method necessarily led to a valuation of the mining business, it does not follow, I think, that its result was not the fair value of the land. Large iron mines are, it seems, very infrequently sold. Comparisons, therefore, cannot be made to determine the cash value by any standard of selling value. The statute direction, already referred to, is that the quantity and value of minerals, when known to be valuable therein, must be considered by the assessor in determining the value of land for taxation. It will be admitted that the availability and value of minerals, unmined, are not matters of common knowledge, nor to be correctly ascertained or estimated except by men

possessed both of certain particular information and of expert knowledge."

* * * *

"The point we are concerned with is whether a method, wrong in principle, was adopted by the assessing officers in their endeavor to form a judgment as to the present value of the particular land. There is no reasonable ground for contending that the State may not use the methods of business to ascertain such values. In such a case, it is not compelled to ignore, or discount, the facts of demonstrated availability, quantity, and quality of mineral. If a rule or method exists by which engineers and business men ascertain the values of ore bodies for the purpose of buying and selling them, if no better rule is or can be suggested, how can it be said that the rule is wrong in principle when adopted by the State? The State must, of necessity, treat the peculiar subject of taxation as the subject requires, not to change or modify a cardinal rule of taxation, but to apply it. Upon this record no other rule is suggested, and the rule employed is conceded to be the rule of engineers in like cases."

The value of this property having been determined by impartial experts of unquestioned standing, employed at the expense of the state, the Board of State Tax Commissioners were fully justified in accepting the value so determined as being the true cash value of the property, and would have been justified in adopting as the assessed valuation of this property, the Finlay figures. Notwithstanding this, the board in order to allow for any possible truth or justice in the claims made by plaintiff, as has been pointed out, made enormous reductions from those figures.

The claim made that the trial court sought to excuse or justify any alleged discrimination in the assessment of mining and non-mining property because of lack of time to hold a general review, is without the slightest foundation in fact, as shown from this record. It will undoubtedly be conceded that after October 2, 1911, when plaintiff claims to have called the attention of the board to an alleged under-assessment of non-mining property in the township, there was not sufficient time to permit of a general review of such property by the board. But the fact is not material. The determination as to the necessity for such a review must necessarily rest with the board, acting in good faith. If boards of review could be

prevented from the exercise of their judgment in fixing assessments, or made to act at their peril by unsupported statements of those whose property is under consideration, that other property is under-assessed (a never ending complaint to such boards), then it would be impossible ever to make a valid assessment.

The board in proceeding as it did to review the assessments of property included in that review and in using its best judgment and information to so fix values so as to make the assessment of such property relatively just and equal, evidently did its plain duty under the law, and we again assert that the valuation as placed on this property by the state board, was eminently just and fair, and that the alleged claim of under-valuation of non-mining property made by the plaintiff, received greater consideration than could properly have been shown had all the evidence of under-valuation contained in this record, been produced at that time.

Plaintiff Bound by Findings of the Trial Court.

This case was tried by a jury and at the conclusion of the evidence, both parties moved for a directed verdict. If the evidence was such as to raise a question of fact for the determination of the jury, the fact that both sides moved for a directed verdict, under the established practice of the Michigan courts, removed any such question from the consideration of the jury, and the parties are bound by the findings of the court, if supported by evidence, to the same extent that they would be bound by a verdict of the jury.

Culligan vs. Apern, 160 *Mich.*, 241.

Law Cited by Plaintiff.

In all cases cited by the plaintiff, it appeared as an established fact that the assessing officer or reviewing board in making or reviewing the assessment complained of, discriminated by wilfully and knowingly adopting a standard of valuation for one kind of property, different from that used for another, with the intention or effect of requiring the property discriminated against to bear more than a just proportion of the burden of taxation, to the damage of the party complaining. In this case it not appearing that there was any discrim-

ination, intentional or otherwise, and it appearing that the state board honestly endeavored in placing a valuation on plaintiff's property, to make the assessment relatively just and equal with other property in the assessing district, and it also appearing that such assessment was in fact relatively just and equal, the authorities cited by plaintiff are not applicable to the facts in this case.

Respectfully submitted,

JAMES A. O'NEILL,
Attorney for Defendant in Error.

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The Supreme Court of the United States

October Term, 1915

No. [redacted] 38

SUNDAY LAKE IRON COMPANY,
Plaintiff in Error,

vs.

THE TOWNSHIP OF WAKEFIELD,
Defendant in Error.

In Error to the Supreme Court of the State of Michigan

Reply Brief for Plaintiff in Error.

WILLIAM P. BELDEN,
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Attorneys for Plaintiff in Error.

[illegible]

The Supreme Court of the United States

No. 697.

SUNDAY LAKE IRON COMPANY,
Plaintiff in Error,

vs.

THE TOWNSHIP OF WAKEFIELD,
Defendant in Error.

Reply Brief for Plaintiff in Error.

The brief filed for defendant in error contains no criticism of the main proposition upon which the plaintiff in error relies in this case, namely, that where the property generally in a taxing district has long been systematically under-assessed at about one-third of its value,—to raise the assessment of one class of property up to 100% of its value, while knowingly leaving other property generally under-assessed, and to collect taxes upon this unequal basis,—amounts to denial of the equal protection of the law to the citizens whose assessments are so raised,—and the taking of their property without due process of law.

The defendant also admits that the taxing officers of Michigan raised the assessment of the plaintiff's property for 1911 as alleged, but refused to review or raise the assessments of other property generally in the taxing district,—leaving the plaintiff to pay its taxes upon the basis of the increased assessment, while all other citizens paid taxes upon the basis of assessment which had long before existed.

Counsel for defendant, however, seeks to avoid the legal

result of this situation by denying the under-assessment of property generally in Wakefield Township, and denying that the taxing officers were guilty of legal fraud or wrong in raising the plaintiff's assessments under the circumstances complained of.

The denials contained in defendant's brief are peculiarly qualified. For instance, instead of actually denying the under-assessment of property, counsel simply claimed that the assessing officers *exercised their best judgment and honestly endeavored to assess the property at its real value*, etc, etc.

Likewise, as to the action of the state tax commission in raising the plaintiff's assessment, it is claimed that this commission "acted honestly and fairly" and *honestly sought to correct the assessment as to such property in such manner as to make the plaintiff's valuation relatively just and equal with other property.*

We here consider separately the claims,—*first*, as to the exercise of judgment by the local assessor and board of review and their assessment of property generally within the tax district in question; and *second*, as to the conduct of the state tax commissioners in raising the assessment of the plaintiff's mines. And it will be remembered that the plaintiff here complains only of the wrongful acts of the state tax commission.

First. As to the assessment of property generally up to and including the year 1911 and the exercise of judgment by the local officers,—the claim of counsel for defendant appears on pages 2, 8 and 23 of defendant's brief. On page 2 the following statement appears as to the acts and proceedings of the assessor:

> "As far as he could make personal examination and procure personal information as to the value of property, he made such examination and procured and used such information in making up the assessments. * * *
>
> "In making the assessment of all property in the township, the supervisor used his best judg-

> ment and information, and honestly sought to assess all property at its true cash value and in every way endeavored to comply with the provisions of the tax law."

Thereupon certain detached passages are quoted from the record as sustaining these statements, and to show that the local board of review also exercised its judgment. The quotations, however, are disconnected from the context and do not fairly, or at all, give to the court a correct statement of the facts, or what the witness really stated.

The assessor had not even seen the larger part of the lands and property in Wakefield Township at the time of making the assessment (Rec. p. 72), and any statement to the effect that he "exercised judgment" or "formed an opinion" in making the assessment in question, is explained by him in his testimony showing as to what he meant and how he did it. (Rec. p. 72):

> "I went to work and looked over several of these old assessment rolls. I based my opinion upon the values which had been placed on property heretofore. I thought this value was right *because I was unable to get over the property and view it.* When I looked at them old rolls I saw that the valuations was about the same all through, and I was unable to change much those vaulations because I wasn't able to go there and see the property."

In the main the assessor simply copied the old assessment rolls with the valuations as they had appeared for a number of years. He simply concluded that the *old rolls and the assessments of value thereon must be about right because they had been used as they were for years before.*

The time when the assessor "exercised his judgment and formed his opinion" *was after the assessment for 1911 had been made,* and after the meeting of the county board of review. He then began to investigate and inform himself as to actual conditions preparatory to making the roll for 1912. He then "formed the opinion" that the property generally had

been under-assessed. These facts are explained in the testimony found on record pages 73 and 74 (hereinafter quoted), and were emphasized when the witness was later recalled for cross-examination.

On Rec. p. 121 he gave the following testimony:

> "Q. Did you also from the time you were elected until after the last meeting of the Board of Review in 1911 make all the inquiries you could and do the best you knew how to find out what was the true cash value and proper taxable value of property in that township?
>
> "A. I did *after the Board of Review met.* Before that I didn't have much time.
>
> "Q. Did you do that during all the time that you had to devote to it?
>
> "A. I did do it more or less but I didn't have very much time to do it *until after the Board of Review met,* because I had a lot of work to do before that. I did the best I could as to that."

Notwithstanding the foregoing, counsel for defendant felt warranted in strong assertions as to the conduct and good faith of the taxing officers and boards and the assessment of property generally in this taxing district. On p. 8 of defendant's brief, the following statement appears:

> "The undisputed evidence of the plaintiff shows that the supervisor in assessing the property of Wakefield Township in 1911 and the local Board of Review in reviewing his assessments, honestly endeavored to assess all property at its true cash value. *The only evidence offered to show that property generally outside of mining property was not assessed at its true cash value in 1911, was the assessment roll prepared by the supervisor the following year, and the testimony of Wm. S. Peters, a Clerk at the Mikddo Mine, which was operated and controlled by the same interests as the plaintiff's mine."*

And on p. 9, the further claim that under the evidence property generally in Wakefield Township had *materially increased in value between October, 1911, and April, 1912,—*

thus attempting to account for the great increase which appeared in the assessment of 1912.

These two statements strangely overlook and disregard the evidence as shown by the record. "The assessment roll prepared by the supervisor the following year, and the testimony of Wm. S. Peters"—*did not* constitute the only evidence of the under-assessment of property generally in Wakefield Township in 1911. The conditions and values of property generally in Wakefield Township had not changed or increased before the assessment roll was prepared for 1912.

As to the general under-assessment of property in this township up to and for the year 1911, the assessor, Simonson, expressly and fully testified upon this subject.

We have referred in detail to his testimony in our original brief but venture here again to quote a few passages from his evidence.

On Rec. p. 73, he said:

> "After I had completed the work of making this roll in 1911 I then began to make a personal examination of the township.
>
> "During almost the entire summer I made trips into the woods and looked over the timber lands and timber properties. At different times I went out looking over these lands. I was reelected supervisor in April, 1912, and I prepared the roll of that year. Prior to the time when I began the roll for 1912 I had been in all the townships, except that I am not sure whether I crossed the line to Township 49, Range 40. That is right near the lake. I was in all the surveyed townships except Township 49, Range 40. During my visits I came to the conclusion that this land was good land. It was good land and the majority of it had good timber on it. The majority of that land is good farming land. I found some pretty fair timber lands. I made a sufficient investigation so that I could form a general conclusion as to whether this land *had been assessed correctly or not*. I was of the opinion that it had not been assessed enough in 1911."

On p. 74, the witness testified:

> "Q. Go on and state in a general way what you did and what conclusions you reached.
>
> "A. I went out to find out about this land and how that land looked and how it is timbered. I made those trips on purpose to find it out. After I made those trips in different directions I came to the conclusion that the land was not valuated enough."

Thereupon the witness proceeds to testify in his own way how much it had been under-valued in 1911.

On p. 79, the witness testified as follows:

> "Referring again to the farm property outside the Village of Wakefield, the property and timber land was worth according to its true cash value in 1911 the amount I assessed against it in 1912."

As to the statements that *conditions of property had changed and values had increased* before the assessment roll had been prepared for 1912,—they should be found unwarranted. The only support for such a claim is the statement of the witness Simonson. (Rec. p. 81):

> "In the Village of Wakefield because of business being good and more mines being opened and prospects better, I guess things are looking better *now* than they ever were for quite a few years. I guess that doubled the valuation of *village* property, as much as I can make out."

But this testimony was given in the spring of 1913 and the witness was testifying as to that time. This fact was brought out when the witness was later recalled for cross-examination.

On Rec. p. 122 he said:

> "I don't think that business generally in the Village of Wakefield picked up very much between the time I made up the 1911 assessment roll and the time I made the 1912 assessment roll; not enough so that I noticed that. *This time it has picked up lately.* I don't think I noticed it picked up between the time when I made the assessment roll in 1911

and that in 1912; it may have picked up a little. Business picked up in the fall of 1912 after they started those drills over there in that new mining property. The prospect of getting new mines there made business pick up; it did pick up, quite a bit now. I think merchants increased their stock.

"Q. Property became in more demand and more valuable?

"A. I think so.

"Q. And business generally became better?

"A. I ain't in business but in the last three months' time the valuation of property went up some."

The important feature of this testimony is that it clearly shows that this change in conditions in the Village of Wakefield did not begin until the fall of 1912, after the 1912 assessment had been made. Furthermore, there is no testimony in the record tending to show that at the time mentioned, namely, the fall of 1912, any change whatever occurred in the valuation of the large area of timber and farm lands constituting the great part of the township, or that such lands constituting the great area of taxable property in the township, could or would be affected in value by any change in the value of the village property.

Counsel attempts to support the contention that property in the vicinity of Wakefield increased in value before the assessment of 1912, by quoting on page 24 of appellee's brief a paragraph from the decision of the Michigan Supreme Court.

The Michigan court evidently gathered its conclusion that the publication of the Finlay report produced an immediate advance in property values, from the argument of counsel, because nothing of this kind is contained in the record. No witness testified that property values changed in the slightest respect on the publication of the Finlay report in 1911. On the contrary, as we have heretofore pointed out, John Simonson and every other witness questioned on this subject testified that the change in values did not begin until the dis-

covery of new ore fields in the fall of 1912. At that time the 1912 valuations had been fixed and concluded for several months.

The regular and systematic under-assessment of property generally in this tax district appears clearly from this record. It is plain that the assessment of all property was substantially copied from the former assessment rolls, which in turn had been likewise copied from previous rolls for years before, and in all the property was under-valued. This was understood by the public generally and by the taxing officials as well. It was especially understood by the State Tax Commission.

This situation is indicated by one marked and significant omission from defendant's brief. While counsel repeatedly make the claim that the assessor and the local Board of Review *had endeavored to comply with the law, had exercised their best judgment*, and the like,—yet nowhere does counsel make the claim that any witness testified or that the record shows that such officers *did in fact* assess the property generally in Wakefield Township at its real value in 1911.

It may be true that these local officers were proceeding upon the theory that nobody was prejudiced by their action, because all property was assessed on a basis of relative equality. But it cannot be justly claimed that property generally had been assessed at its real value.

The plaintiff in error, however, does not here criticise the action of the *assessor or local Board of Review;* no claim is made that these officials were guilty of fraud or wrong to the rights of the plaintiff. *The plaintiff complains of the action of the State Board of Tax Commissioners.* It is the action of that board alone which is here involved.

This brings us to the defendant's second claim, namely:

Second. That the Board of State Tax Commissioners acted fairly and honestly in raising the assessment of the plaintiff's property, and that it had no intention of committing an injustice or fraud upon the plaintiff.

The claims of the defendant in this respect are found on p. 16 of its brief:

> "It would appear from these facts that the board, in fixing a value on plaintiff's property, acted fairly and honestly, and even generously, to the plaintiff, giving due weight and consideration to all claims made, including the unsupported claim of the general under-assessment of non-mining property in the township.
>
> "No discrimination, or attempted discrimination, being shown on the part of the Board of State Tax Commissioners, and it appearing that they acted honestly and fairly in fixing the assessment complained of, their judgment cannot be assailed. It is well recognized that only in cases of fraud can an assessment be invalidated. We desire to call the court's attention to some of the leading cases on this question."

In examing these claims, the ground of the plaintiff's complaint must be kept in mind.

The plaintiff does not seek relief because of the over-assessment of its property. It complains because the Board of State Tax Commissioners raised the assessed value of its property to 100%,—while it knowingly left other property generally in the tax district assessed at 33 1/3% of its value.

In view of this complaint and of the evidence in this case, on what does defendant base its claim that the Board of Tax Commissioners acted fairly and honestly? It is conceded that the assessed value of the property of plaintiff in error in 1911 was raised to the amount alleged in the complaint which was at least 100% of its value.

The record also shows that it was the plan and purpose of the commission to raise the value of the plaintiff's mining property for 1911 without at the same time raising the assessed value of other property. It follows that if other property had been and was then under-assessed and if the Board of Tax Commissioners then had knowledge and in-

formation of this fact,—they were purposely proceeding unjustly and in violation of the plaintiff's rights.

That property of all kinds generally throughout this taxing district had been systematically under-assessed was shown without consideration of any kind at the trial of this case. The most striking evidence of this fact is that within less than six months the state tax commission began to make detailed investigations of the property in this district; and that based upon these investigations, they raised the tax roll for 1912 from three to six times as high as the assessment of 1911. (Rec. 75, 76, 122, 123).

That the Board of State Tax Commissioners was fully advised of these conditions before it raised the plaintiff's assessment for 1911 admits of no dispute.

The first opportunity which the plaintiff had to address the State Tax Commission after the assessment of 1911 had been prepared and reviewed, was at the meeting held on October 2nd. At that time, Mr. Belden, representing the plaintiff, appeared and notified the board that "other property in Wakefield township is generally assessed at a rate not exceeding 33 1/3% of its real value." Also that property throughout the State of Michigan was assessed at not more than 50 to 60%,—and perhaps less, of its value. (Rec. pp. 20, 21).

Counsel then stated (Rec. p. 21):

> "and if this board feels that it can appoint a time and place to permit proof of the statement which I am making, I shall be prepared to make such proof and in behalf of these companies *I desire to here enter a complaint before this board that such property is grossly under-valued and generally under-valued throughout the township* and that it ought to be raised to its full cash value, and I will file with this board later in the day a written statement of this complaint, showing the grounds for it, and present it as the statute requires."

On the same day (Rec. p. 22) the plaintiff and various other mine owners filed a written complaint formally stating

to the board that property generally in this township was under-assessed at not more than one-third of its cash value.

Thus these facts were pointedly and plainly brought to the knowledge of the State Tax Commission. It appears that the oral statement made to the Tax Commission was taken down and reduced in writing (Rec. pp. 17-21), and there appears to have been no dissent from the correctness of the statement. On the contrary, the record affirmatively shows that Mr. Shields, a member of the board who conducted the investigation, admitted knowledge of these facts, but refused to consider other property generally, solely because of a lack of time. (Rec. p. 25). In determining the meaning of this statement of Mr. Shields, it should be understood and taken together with the oral statement made in behalf of the plaintiff mining company, to which it was an answer.

In addition to all the foregoing, the assessor Simonson was present at the time with his books and records and his knowledge but lately acquired as to the actual value of this property. The commission therefore had before it a statement of the facts with a full opportunity of verifying the same.

It results, therefore, that the statement found in defendant's brief relative to the fairness and exercise of discretion by the State Board of Tax Commissioners is unwarranted from anything in the record. The State Tax Commission raised the assessment of the plaintiff's property up to 100% of its value, —while at the same time, with knowledge and information of the facts, and means of verification of the same, it intentionally left other property generally under-assessed at about one-third of its value.

A Board of State Tax Commissioners, like any individual, is permitted to intend the natural consequences of its acts. It intended, therefore, to assess the plaintiff's property on a basis three times as high as the property generally in the taxing district. It intended to tax the plaintiff on a basis which

was not just and equal, and to cause it to pay more than its fair and ratable share of taxes.

The process of assessment adopted by this board was not in accordance with the law of Michigan, but was in fact the arbitrary action of the board itself. The only excuse for this procedure,—for the sacrifice and violation of the plaintiff's rights,—was a lack of time in which to make a proper assessment of property generally.

The conduct of the board, therefore, amounted to an intentional violation of the plaintiff's rights. It amounted to nothing less than a legal fraud.

The suggestion found on page 14 of the defendant's brief that the State Board of Tax Commissioners had made a reduction from the value of the plaintiff's mine to cover the matter of inequality between the basis of its assessment and the basis of assessment of other property,—is unwarranted from the record. On the contrary these flat reductions were made as a means of arriving at what was deemed the actual cash value of the plaintiff's property at 100%. It will be remembered that the Finlay appraisal was a scheme of valuing the profits made in the business of mining and thereby arriving at the value of the mine.

The plaintiff and various mine operators had criticised the factors used in arriving at the values placed upon their mines; namely, labor conditions, the market price of ore, the increased taxes, the interest rate in determining the present worth, and the like. They were, therefore, objecting to the estimated values made by Mr. Finlay.

The witness in fact stated that the reduction in question was made to cover the claims of the mine operators as to these factors used in *arriving at the actual value of the mine itself.*

In quoting the testimony of Dr. Leith, the defendant stops just short of giving the meaning of the witness. The quo-

tation above referred to in defendant's brief ends with the following sentence which has been italicized:

> "These cuts were made to cover any possible truth or justice that there might be in the claims made by the owners and operators of these mines as urged by them at the hearing of the Tax Commission held on October 2, 1911."

The defendant does not quote the testimony showing what the witness states the claims of the mine owners and operators were, though without such statement the quotation which the defendant made was capable of misconstruction. Indeed, counsel for the defendant has himself misconstrued and misapplied the same. What the witness testified immediately following the defendant's quotation, was this:

> "These cuts were made after arguments had been made in the four counties, and there were various arguments brought up by the mining companies —labor conditions, price of ore, increased taxes— and to cover these various things these cuts were made just before the values were put on the books."

To suggest that this deduction of $400,000 was intended as a means of equalizing the high assessment of the plaintiff's property with the lower basis of assessment of all other property would convict the board of a kind of arbitrary proceeding, which is not warranted by anything in the testimony. The board refused to take up or give any consideration to the assessed value of any other class of property. They had no means or basis for equalizing values, and no such step was attempted.

The defendant's statement and suggestion on page 16 of its brief is, therefore, without any basis whatever. That statement is as follows:

> "It would appear from these facts that the board in fixing the value on plaintiff's property, acted fairly and honestly and even generously to the plaintiff, *giving due weight and consideration to all claims made, including the unsupported claim of the general under-assessment of non-mining property in the township.*"

DISCUSSION OF AUTHORITIES.

The authorities and decisions cited and quoted from by the defendant in error at pages sixteen to twenty-three of its brief do not reach the situation here involved. They have no bearing upon this controversy. In each of those cases the complaint was as to the unreasonable amount of the assessment of the protestant's property,—that the taxing officers had gone too far in the matter admittedly within their discretion and *had assessed the plaintiff's property too high.*

The plaintiff in error here does not base its complaint upon the excessive assessment of *its property.* The complaint is based upon the fact that when the tax commissioners of Michigan raised the assessment of the plaintiff's property to 100% of its value, they refused to consider the assessment of other property generally, and knowingly left it assessed at but 33% of its value. The wrong complained of is that the commission knowingly changed the basis of value of the two classes of property *and destroyed the relative equality of assessment.* The plaintiff's property was assessed for taxation upon a different and higher basis than all other property with the result that the plaintiff was compelled to pay more than its just proportion of the taxes.

The State Tax Commission had no jurisdiction or legal discretion to change the relative relations of property so that one would be assessed upon a plane of 100% of its value, while all the rest was assessed at 33% of its value. This would amount to an exercise of arbitrary will. It would be a "government of men and not of law."

This court has many times announced and emphasized the great principle that this is a government of laws and not of men, and that our constitutions do not mean to leave room for play and action of personal or arbitrary power.

Yick Wo. v. Hopkins, 118 U. S. 356. (See opinion pp. 369-370).

Reagan v. Trust Co., 154 U. S. 362. (See opinion 399).

Cotting v. Stock Yard Co., 183 U. S. 79. (See opinion p. 84).

In *Cotting v. Stock Yard Co.*, 183 U. S. 79, in the opinion (p. 84) the following strong statement appears:

> "It has been wisely and aptly said that this is a government of laws and not of men; that there is no arbitrary power located in any individual or body of individuals * * * *."

All of which is respectfully submitted,

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